



# interstellarum Deep Sky Atlas

DESK EDITION

Ronald Stoyan, Stephan Schurig

CAMBRIDGE

OCULUM



# Stars

## Magnitudes

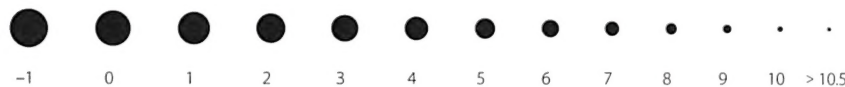
Main maps: scale  $1^\circ = 1.5$  cm



Detail maps: scale  $1^\circ = 3$  cm



Detail maps: scale  $1^\circ = 4.5$  cm



Detail maps: scale  $1^\circ = 6$  cm /  $1^\circ = 9$  cm



## Lines

Constellation line    Constellation boundary    Constellation name    **And**    Ecliptic    Galactic equator

## Double stars

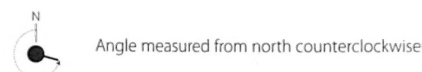
### Separation

- $< 2''$  visible at high power
- $2-10''$  visible at medium power
- $> 10''$  visible at low power

### Magnitude difference

- $> 1$  cannot be split according to Rayleigh formula
- $\leq 1$  can be split according to Rayleigh formula

### Position angle



## Variable stars

- Inner circle: minimum magnitude
- Outer circle: maximum magnitude

## Stars with exoplanets

- At least one exoplanet known

# Deep sky objects

| Visibility calculation | Visible in 4-inch (100 mm) telescope aperture   | Visible in 8-inch (200 mm) telescope aperture  | Visible in 12-inch (300 mm) telescope aperture   | Not visible in 12-inch (300 mm) telescope aperture   |
|------------------------|---|--|--|--|
| Label                  | Name  | Name   | Name   | Name   |
| Size                   | All maps show the object in correct size and elongation. The symbols are drawn to scale for ...<br>... main maps ( $1^\circ = 1.5$ cm) from 4' object diameter<br>... detail maps ( $1^\circ = 3$ cm) from 2' object diameter<br>... detail maps ( $1^\circ = 4.5$ cm) from 1.5' object diameter<br>... detail maps ( $1^\circ = 6$ cm) from 1' object diameter<br>... detail maps ( $1^\circ = 9$ cm) from 40' object diameter |  |  |  |
| Open clusters          |   |  |  |  |
| Globular clusters      |   |  |  |  |
| Emission nebulae       | <ul style="list-style-type: none"> <li> OIII filter recommended</li> <li> UHC filter recommended</li> <li> H<math>\beta</math> filter recommended</li> </ul>  | <ul style="list-style-type: none"> <li> OIII filter recommended</li> <li> UHC filter recommended</li> <li> H<math>\beta</math> filter recommended</li> </ul> | <ul style="list-style-type: none"> <li> OIII filter recommended</li> <li> UHC filter recommended</li> <li> H<math>\beta</math> filter recommended</li> </ul> | <ul style="list-style-type: none"> <li> OIII filter recommended</li> <li> UHC filter recommended</li> <li> H<math>\beta</math> filter recommended</li> </ul> |
| Reflection nebulae     |   |  |  |  |
| Dark nebulae           |   |  |  |  |
| Planetary nebulae      | $< 10''$ (stellar)  | $< 10''$ (stellar)   | $< 10''$ (stellar)   | $< 10''$ (stellar)   |
| Galaxies               | $< 30''$ (stellar)  | $< 30''$ (stellar)   | $< 30''$ (stellar)   | $< 30''$ (stellar)   |
| Quasars                |   |  |  |  |

No visibility calculation

Asterisms Name

Star clouds Name

Groups of galaxies Name

Clusters of galaxies Name





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Ronald Stoyan, Stephan Schurig





About the authors:

**Ronald Stoyan** is editor-in-chief of Germany's leading magazine for practical astronomy, *interstellarum*, which he co-founded in 1994. He has been an avid visual deep sky observer for more than 25 years and is currently observing with a range of instruments from small binoculars to a 20-inch Dobsonian. He has recorded observations on more than 3000 objects and has drawn many of them. During several trips to Namibia and Australia, he has also observed the southern sky in detail. Ronald has written twelve books on observational astronomy. In Germany, he is best known for his guidebook *Deep Sky Reiseführer*, while his most popular English language work is the *Atlas of the Messier Objects*.

**Stephan Schurig** is a web and graphics design expert. Being an observer himself, he understands the specific needs of celestial cartography and its presentation. Stephan was a member of the editorial board of *interstellarum* between 2001 and 2008. He is co-author of Germany's most popular planisphere, and is the designing author of a unique annual poster showing events in the night sky.



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In collaboration with



University Printing House, Shaftesbury Road, Cambridge CB2 8BS, UK

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[www.cambridge.org](http://www.cambridge.org)  
Information on this title: [www.cambridge.org/9781107503380](http://www.cambridge.org/9781107503380)

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English edition distributed by Cambridge University Press

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First published in German by Oculum-Verlag GmbH, Erlangen, 2013.  
English edition published 2014.

A catalog record for this publication is available from the British Library.

Desk edition ISBN 978-1-107-50338-0 (Cambridge) 978-3-938469-79-8 (Oculum)  
Field edition ISBN 978-1-107-50339-7 (Cambridge) 978-3-938469-80-4 (Oculum)  
Additional resources for this publication at [www.deepskyatlas.com](http://www.deepskyatlas.com)

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## Preface

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A dark night. A perfect sky. An observer sitting by the telescope. The red beam of a flashlight highlights the page of a star atlas. Between all these stars, numerous star clusters, nebulae, and galaxies are labeled. But which of these can actually be seen with this telescope?

Until recently, star charts gave no answer to this question. Undertaking cumbersome research using observing guide books or reports published on the internet was the only way to get this information. Out in the dark at the telescope, this is too impractical.

In the past couple of years, two notable amateur projects changed this situation. In the *Deep-Sky-Liste*, German-speaking amateurs collected 18 000 observations on 5000 objects over the course of two decades. The results were standardized and easily comparable. With the revolutionary software *Eye & Telescope*, Thomas Pfleger established a powerful tool which, for the first time ever, allowed calculations of the visual perceptibility of deep-sky objects. The algorithm that governs this program is surprisingly accurate.

This atlas is a combination of these two projects and brings deep-sky observing to a new level. Using the calculations from *Eye & Telescope*, all deep-sky objects can be classed according to their actual visibilities. By matching the results with the observations contained in *Deep-Sky-Liste*, the classification is calibrated by the experience of a large group of seasoned observers. The outcome is a unique atlas that gives visibility information on 15 000 deep-sky targets.

This atlas revolutionizes visual deep-sky observing. The objects between the stars aren't bland labels any more. The observer sees instantly whether an object is visibly with his telescope or not.

I hope that this atlas will change the way you observe, and enlighten your path to the wonders of the night sky.

Clear skies,  
Ronald Stoyan

## Acknowledgements

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This atlas is the result of more than 12 years of labor. It has become a reality only through the help of many people.

A special thank you is due to Thomas Pfleger and Matthias Kronberger. Thomas has modified his fantastic software *Eye & Telescope* in order to create an "atlas tool" for this work. Matthias helped tremendously with the object catalog, notably on star clusters, asterisms, and globular clusters. Without their work, this atlas would never have been published.

Many observers have helped with special information, suggestions, comments, and support. They are in alphabetical order: Andreas Alzner, Glenn Chaple, David Eicher, Sue French, Uwe Glahn, Peter Haberberger, Joachim Hübscher and the BAV, Thomas Jäger, Matthias Juchert, Timo Karhula, David Kriege, Jürgen Lamprecht, Arndt Latußeck, Constantin Lazzari, Mati Morel, Alex and James Pierce, Ante Perkovic, Yann Pothier, Stefan Schick, Brian Skiff, Auke Slötegraaf, Mikkell Steine, Magda Streicher, Reiner Vogel, Wolfgang Vollmann, Christopher Watson and the AAVSO, and Klaus Wenzel.

The team of Oculum-Verlag, notably Hans-Georg Purucker, Christian Fürst, and Stefan Sasse, helped substantially during the final stages. Finally, I would like to thank Vince Higgs from our co-publisher Cambridge University Press for his support.



# Introduction

## I Philosophy

**Categories of deep sky objects:** *interstellarum Deep Sky Atlas* puts all deep sky targets in three categories: objects visible in 4-inch telescopes, in 8-inch telescopes, and 12-inch telescopes under a reasonably dark rural sky (fst 6.5 mag, SQM 21.3 mag/sq.arcsec). The three categories can be discerned by font size, outline strength, and color intensity. At a glance, you can see if the desired object is visible in your telescope or not. Additional objects of interest which are not visible in 12-inch scopes are displayed in a fourth category.

**Number of deep sky objects:** Consequently, the atlas will show all deep sky objects in the sky that are visible in 4-inch, 8-inch, and 12-inch telescopes. Unlike other atlases, you will not miss any object in reach. At the same time, the atlas does not show objects that cannot be seen with a 12-inch telescope. While other star atlases boast of exceptional numbers of deep sky objects, most of them are out of reach of most users. About 1000 objects of special interest to the visual observer, that are beyond a 12-inch scope, are covered nevertheless: These include all galaxies of the Local Group, M 81 group, Abell planetaries, Arp galaxies, and many more that are of interest to users of large telescopes.

**Features for visual deep sky observers:** *interstellarum Deep Sky Atlas* has been designed with the visual observer in mind: Object outlines, especially of bright and dark nebulae, are given according to actual visual observations. For all emission nebulae, there is a label naming the preferred nebula filter. Small objects that cannot be found with the atlas alone are depicted as a cross, so deeper finding charts can be prepared in advance. There is a set of 29 detailed charts of densely populated regions of the sky. In contrast to other atlases, *interstellarum Deep Sky Atlas* contains more than 500 galaxy groups and 530 asterisms. For several hundred objects, popular names are given. And finally, many catalogs with special appeal to visual observers are covered completely: Abell planetaries, Arp galaxies, Barnard dark nebulae, Hickson galaxy groups, Holmberg galaxies, Palomar globulars, Stock open clusters, Terzan globulars, and many more.

## II Layout of maps

**Scale and limiting magnitude:** 114 double spreads cover the entire sky at a scale of 1.5 cm per degree. The maps run right to the edge of the sheets to allow maximum overlap. The limiting magnitude is 9.5 mag, with about 200 000 stars covered. The page size is a generous 26 cm × 28 cm (10.2" by 11.0").

**Projection:** The maps are plotted with a stereographic projection. This projection type is often used for star charts, as it comes with two important features: it preserves angles and circles.

[www.deepskyatlas.com](http://www.deepskyatlas.com)

On our website, there is a lot of additional information, including a video featuring the author and a comprehensive FAQ section.

**Navigation:** The maps are arranged in a very simple and straightforward manner: Each double spread shows 2h in R.A. and 15° in Decl. This is indicated by the labels on the edge of each page.

Due to the large page size, many constellations are covered by just one double spread. Browsing through the atlas is as simple as using a road atlas: If you want to go to the right (west on the sky), simply scroll right. If you want to go to the left (east on the sky), scroll left. There is always exactly one chart in each direction, except in the polar regions.

**Key maps:** Much emphasis has been laid on the 6 key maps. As in the main charts, they show constellation lines, so it's easy to find your way and you'll rarely get lost.

**Detail maps:** There are 29 special maps, arranged after the main section, indicated by a grey side bar. They cover densely populated areas of the Milky Way, groups of galaxies, clusters of galaxies, and both of the Magellanic Clouds.

The scale and limiting magnitude of these maps vary and are indicated on each chart. On the main maps, their positions are shown by gray outlines.

## III Selection of objects

While other star atlases boast of exceptional numbers of deep sky objects, most of them are out of reach of most users. This atlas will show all deep sky objects in the sky that are visible in 4-inch, 8-inch, and 12-inch telescopes. With this atlas, you will not miss any objects in reach.

At the same time, the atlas does not show objects that cannot be seen with a 12-inch telescope. However, about 1000 objects of special interest to the visual observer, that are beyond a 12-inch scope, are covered.

**Stars:** The atlas contains 201 719 stars to magnitude 9.5, taken from the Tycho-2 catalog.

**Double stars:** The atlas contains 2950 double and multiple stars. The selection covers all pairs with separation between 0.5" and 60", if the main component is brighter than magnitude 8.5 and the secondary brighter than 10.0. The direction of the symbol shows the position angle, its length indicates the separation, and the strength hints at the magnitude difference. In multiple systems, all stars that fit into the selection criteria are plotted.

**Variable stars:** 1168 variable stars are shown with their catalog designations. The selection covers all variables with amplitudes larger than 0.5 magnitudes, with a maximum magnitude brighter than 9.0. The symbol indicates maximum and minimum magnitude. Only stars with reliable data on visual magnitude were selected; novae and supernovae are not shown.

**Stars with exoplanets:** The atlas covers 371 stars with known exoplanets as of April 2013, if the magnitude of the parent star is within the limit of the atlas.

**Open clusters:** Altogether, 1903 open clusters in the Milky Way and both of the Magellanic Clouds are shown. The atlas covers the catalogs of Basel, Bochum, King, Stock, Tombaugh, and Trümpler completely.

**Globular clusters:** The atlas shows 181 globular clusters of the Milky Way, as well as the brightest objects of the Magellanic Clouds and the Fornax Dwarf Galaxy. The Palomar and Terzan catalogs are contained completely.

**Galactic nebulae:** The atlas shows 530 bright galactic nebulae of the Milky Way and the Magellanic Clouds. There are different symbols for reflection and emission nebulae. For the latter, there is a recommendation on which nebula filter to use (UHC, OIII or H $\beta$ ). The nebula outlines are given according to visual observations. Photographic sizes and shapes can differ greatly.

**Planetary nebulae:** 755 planetary nebulae of the Milky Way and both Magellanic Clouds are shown. Very small objects (<10" diameter) that look like stars are indicated by different cross-like symbols. The catalogs of Abell, Fleming, and Menzel are covered completely.

**Dark nebulae:** 526 dark galactic nebulae of the Milky Way are shown. The Barnard catalog is contained completely. The nebula outlines are shown according to visual observations. Photographic sizes and shapes can differ greatly.

**Asterisms:** 536 asterisms are plotted in total. These aren't physical objects, but only chance alignments of stars as viewed from Earth. A minimum diameter of 5' was chosen for the selection. There is no visibility classification on asterisms.

**Star clouds:** The atlas contains 58 star clouds. Most of them aren't physical objects; they only look like clouds as viewed from Earth. There is no visibility classification on star clouds.

**Galaxies:** 9599 galaxies are plotted in the atlas. Very small objects (<30" diameter) that look like stars are indicated by different cross-like symbols. The galaxies of the Local Group, as well as the Arp and Holmberg galaxies are all included.

**Groups of galaxies:** There are 508 groups of galaxies indicated in the atlas. All groups contain at least two (Arp groups) or four (Hickson groups) members. If no galaxies are plotted, they may be beyond the galaxies' selection criteria. All Arp and Hickson groups are shown, as well as a selection of Shakhbazian and Klemola groups.

**Clusters of galaxies:** The atlas shows 117 galaxy clusters. All clusters contain at least ten members. If no galaxies are plotted, they may be beyond the galaxies' selection criteria. The atlas contains all Abell clusters with members brighter than magnitude 13, as well as some more difficult targets.

**Nicknames:** If there is a widely used common name or nickname, it is plotted next to the official designation. For the stars, these are the classical names mainly of Arabic origin. For deep-sky objects, nicknames have mainly originated from American amateur astronomers. Some readers may not be familiar with some of the nicknames plotted here, while others are widely used.



### Selection of deep-sky objects

| Object type            | Visible in 4-inch | Visible in 8-inch | Visible in 12-inch | Additional objects | Total |
|------------------------|-------------------|-------------------|--------------------|--------------------|-------|
| Open clusters (OC)     | 985               | 1474              | 1664               | 239                | 1903  |
| Globular clusters (GC) | 111               | 125               | 145                | 36                 | 181   |
| Galactic nebulae (GN)  | 72                | 229               | 311                | 219                | 530   |
| Dark nebulae (DN)      | 101               | 248               | 313                | 213                | 526   |
| Planetary nebulae (PN) | 102               | 261               | 496                | 259                | 755   |
| Galaxies (Gx)          | 660               | 3398              | 9378               | 221                | 9599  |
| Quasars (Qs)           | 4                 | 23                | 78                 | 44                 | 122   |
| Asterisms (Ast)        |                   |                   |                    |                    | 536   |
| Star clouds (StC)      |                   |                   |                    |                    | 58    |
| Galaxy groups (GxG)    |                   |                   |                    |                    | 508   |
| Galaxy clusters (GxC)  |                   |                   |                    |                    | 117   |

## IV How to use the atlas

**Choosing targets:** Start with a key map according to your observing site, season of year, and time of night. Bear in mind that on most places on Earth, only part of the sky is visible.

Look at the map:

- all objects printed in bold labels are visible in a 4-inch (100 mm) telescope if you observe under a reasonably dark sky
- all objects printed in medium labels are visible in a 8-inch (200 mm) telescope if you observe under a reasonably dark sky
- all objects printed in fine labels are visible in a 12-inch (300 mm) telescope if you observe under a reasonably dark sky
- additional objects may require very large telescopes.

If observing with a telescope of different aperture, choose objects of the next aperture class. E.g. when observing with a 6-inch telescope, attempt 8-inch class targets, if observing with a 10-inch telescope, go for 12-inch class objects.

If you are not an experienced observer, or are observing under less-than-perfect conditions, you may not be able to see many objects listed for your aperture class. We strongly recommend you use *Eye & Telescope*, which will calculate the actual visibility for all sizes of telescopes and all kinds of viewing conditions!

Very small objects, indicated by a cross symbol on the maps (quasars, small galaxies, small planetary nebulae) will look like stars at low or medium power. Use high power to identify the object from surrounding stars. A more

detailed finder chart, generated with *Eye & Telescope* software, will be very handy!

**Locating targets:** If you are looking for a particular object, choose from one of these methods for locating it:

- look at the index list. Objects are grouped according to their object type.
- if you know the object's coordinates, first browse the atlas for the right declination zone. The labels on the edge of each map will help. Then choose the correct R.A.
- if you know the constellation, refer to the key maps and choose the corresponding maps.

## V Sources

### Stars

- Høg, E.; Fabricius, C.; et al.: The Tycho-2 Catalogue of the 2.5 Million Brightest Stars, *Astron. Astrophys.* 355, L27 (2000)
- Fabricius, C.; Høg, E.; Makarov, et al.: The Tycho Double Star Catalogue, *Astron. Astrophys.* 384, 180 (2002)
- Kostjuk, N.D.: HD-DM-GC-HR-HIP-Bayer-Flamsteed Cross Index, Institute of Astronomy of Russian Academy of Sciences (2002)
- Fabricius, C.; Makarov, V.V.; Knude, J.; Wycoff, G.L.: Henry Draper Catalogue identifications for Tycho-2 stars, *Astron. Astrophys.* 386, 709 (2002)
- Samus, N.N.; Durevich, O.V.; et al.: General Catalog of Variable Stars, The cross-identification tables, 2012

### Double stars

- Mason, B. D.; Wycoff, G. L.; et al.: The Washington Double Star Catalog (WDS), 2012

### Variable stars

- Samus, N. N.; Durevich, O. V.; et al.: General Catalog of Variable Stars (GCVS), 2012
- Watson, C.; Henden, A. A.; Price, A.: AAVSO International Variable Star Index VSX (2012)

### Stars with exoplanets

- Schneider, J.: Catalog of Exoplanets, [www.exoplanet.eu](http://www.exoplanet.eu) (2013)

### Deep-sky objects

The basis for positions, sizes, and the visibility calculation was obtained with *Eye & Telescope* software. The classification was revised by comparison with the observations of *Deep-Sky-Liste* project and own visual observations.

In addition, a wide range of sources was used:

### Open clusters

- Dias, W. S.; Alessi, B. S.; Moitinho, A.; Lepine, J. R. D.: New Catalog of Optically Visible Open Clusters and Candidates (2012)
- Kronberger, M.; Teutsch, P.; et al.: Galactic Open Cluster Candidates, 2006

### Globular clusters

- Archinal, B.A.; Hynes, S.H.: Star Clusters, Willmann-Bell, 2003
- Glahn, U.; Stoyan, R.: Extreme Kugelsternhaufen, Teil 1: Palomar-Katalog, interstellarum 46 (2006)
- Stoyan, R.: Extreme Kugelsternhaufen, Teil 2: Terzan-Katalog, interstellarum 47 (2006)
- Stoyan, R.: Extreme Kugelsternhaufen, Teil 3: Exotische Objekte, interstellarum 48 (2006)

### Asterisms

- Deep Sky Hunters Asterism List, 2010

### Planetary nebulae

- Kronberger, M.; Jacoby, et al.: New faint planetary nebulae from the DSS and SDSS, 2012

### Galactic nebulae

- Parker, R. A. R.; Gull, T. R.; Kirshner, R. P.: An Emission Line Survey of the Milky Way, 1979

### Dark nebulae

- Barnard, E. E.: A Photographic Atlas of Selected Regions of the Milky Way, 1927
- Lynds, B. T.: Catalogue of Dark Nebulae, 1962
- Sandqvist, A.: New Southern Dark Dust Clouds Discovered on the ESO (B) Atlas, 1977
- Sandqvist, A.; Lindroos, R. T.: Interstellar formaldehyde in southern dark dust clouds, 1977

### Galaxies

- Müller, J.; Richardsen, F.; Stoyan, R.; Veit, K.: Die Holmberg-Galaxien, Zwerggalaxien auf der Spur, interstellarum 22, 50 (2002)
- Kanipe, J.; Webb, D.: The Arp Atlas of Peculiar Galaxies,

### Galaxy groups

- Hickson, P.: Atlas of Compact Groups of Galaxies, 1994
- Müller, J.; Stoyan, R.; Wenzel, K.: Digital-visueller Atlas der Hickson-Gruppen, interstellarum 17–20 (2001)

### Galaxy clusters

- Abell, G. O.; Corwin, H. G., Jr.; Olowin, R. P.: Rich Clusters of Galaxies, 1994
- Abell, G. O.; Corwin, H. G., Jr.: The Southern Cluster Survey, 1984
- Stoyan, R.; Veit, K.: Galaxienhaufen visuell, interstellarum 5, 7, 9 (1995/6)
- Stoyan, Ronald: Galaxienhaufen im Amateurteleskop, interstellarum 39–44 (2005/6)

### Quasars

- Veron-Cetty, M. P.; Veron, P.: Quasars and Active Galactic Nuclei, 2010
- Flesch, E.: The Million Quasars (MILLIQUAS) Catalog, 2012

### Nicknames

- Maddocks, H.C.: Deep-Sky Name Index 2000.0, 1991

### Feedback – we appreciate your comments!

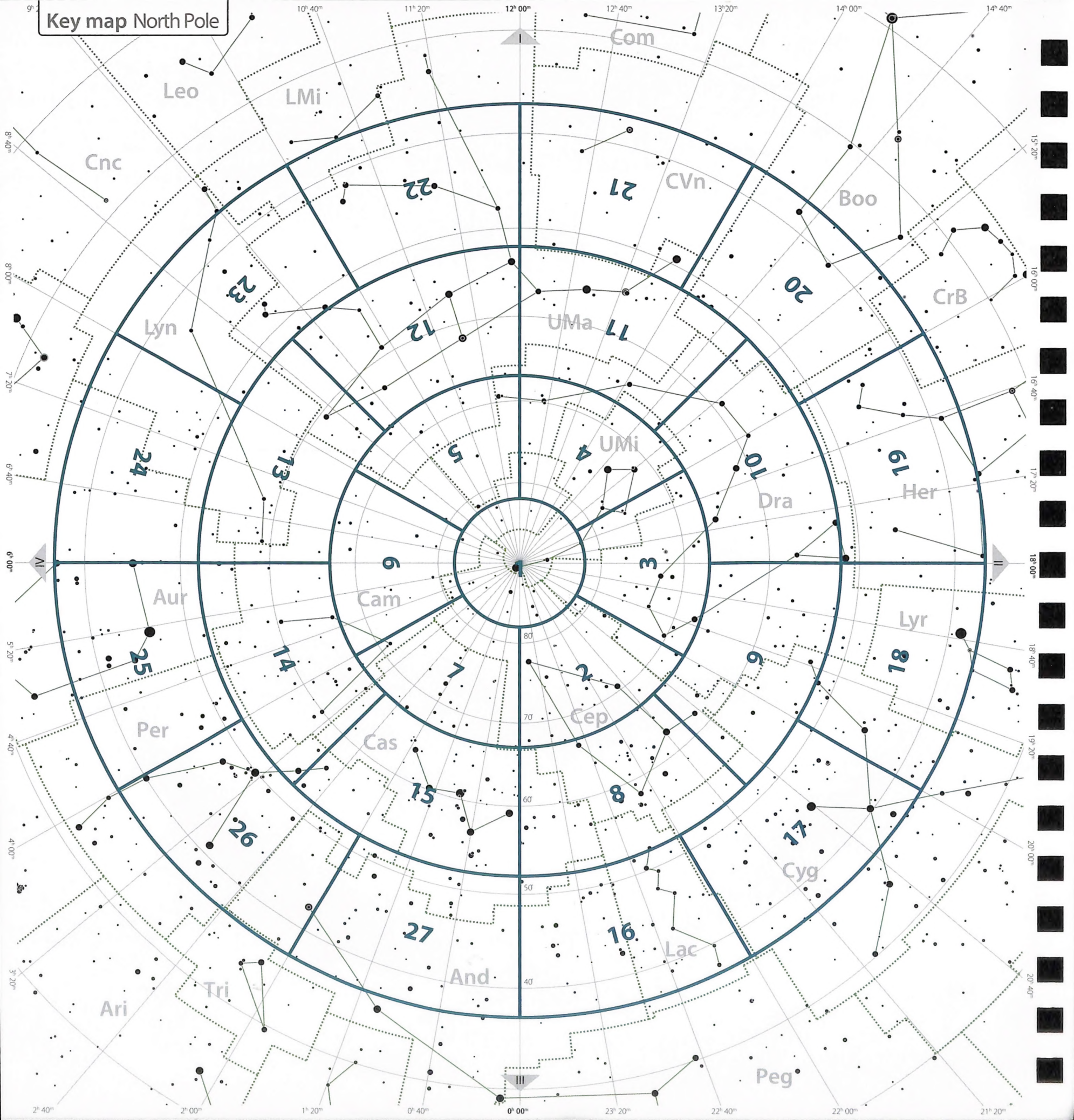
Have you seen an object with a smaller telescope than indicated in the atlas? Or has it been impossible to detect an object of a lower aperture class despite favorable observing conditions?

Tell us about your experiences! We'd also like to learn about errors you have discovered. Please use the feedback form at [www.deepskyatlas.com](http://www.deepskyatlas.com).

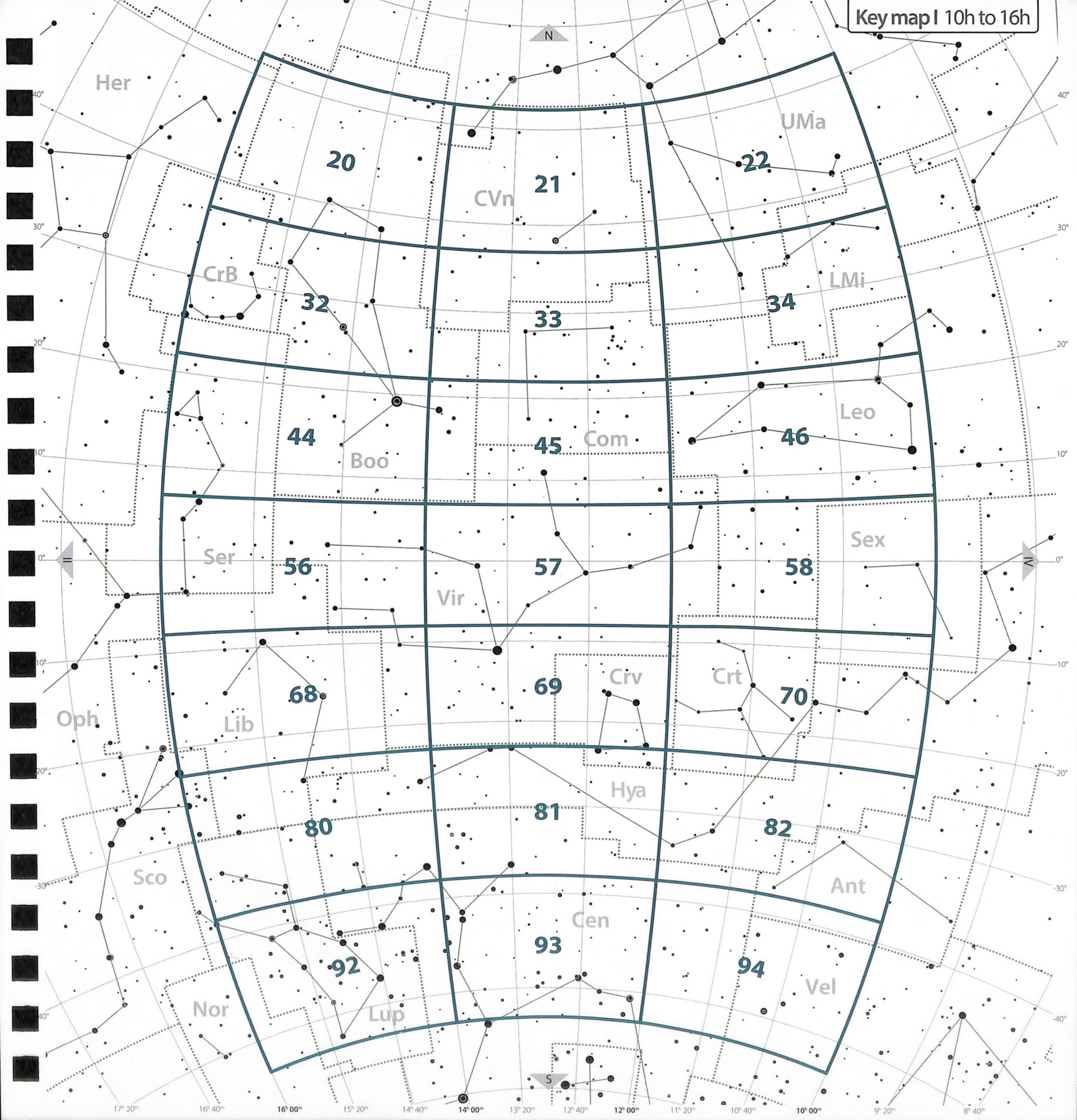
Thank you!



Key map North Pole

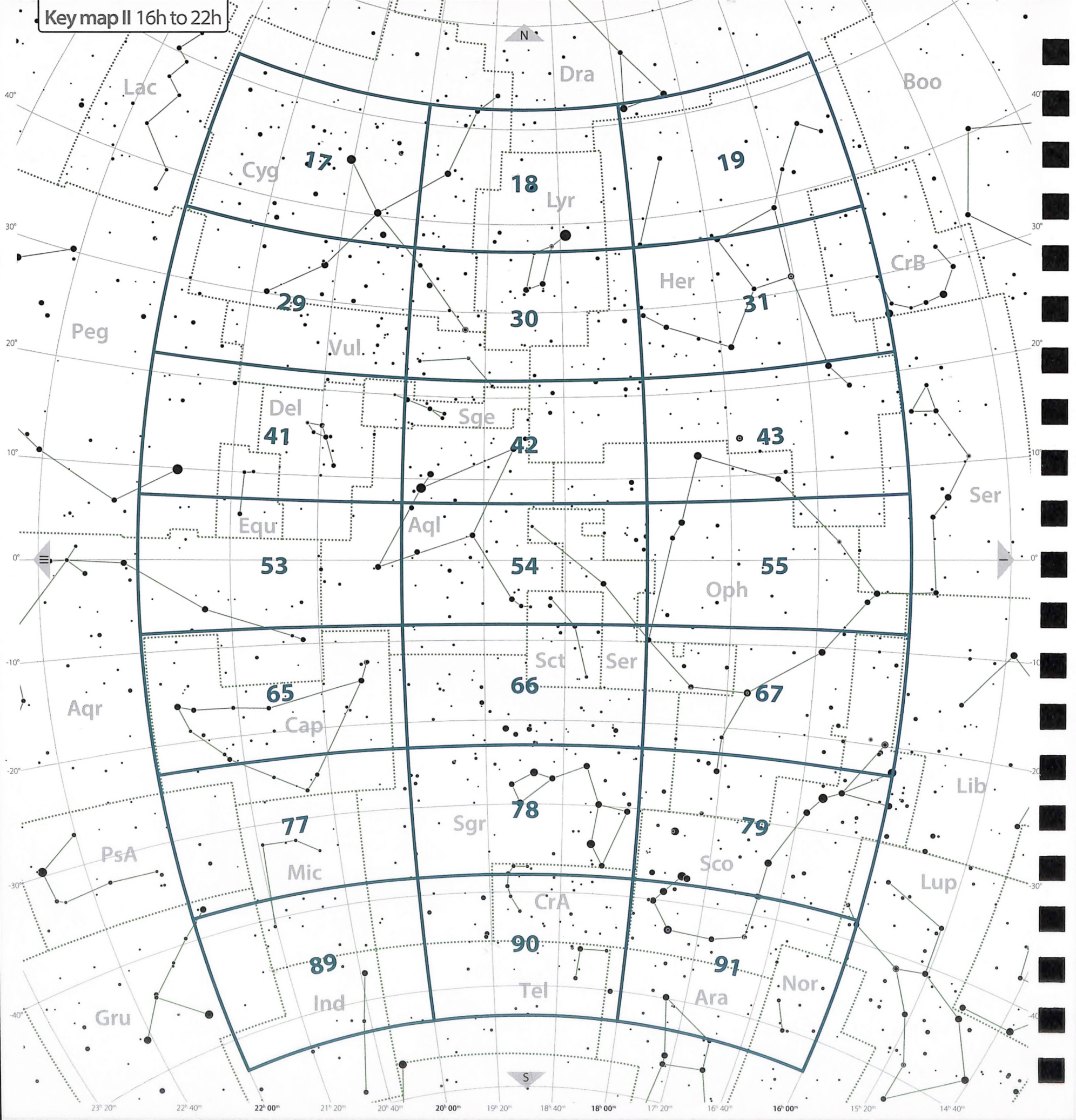




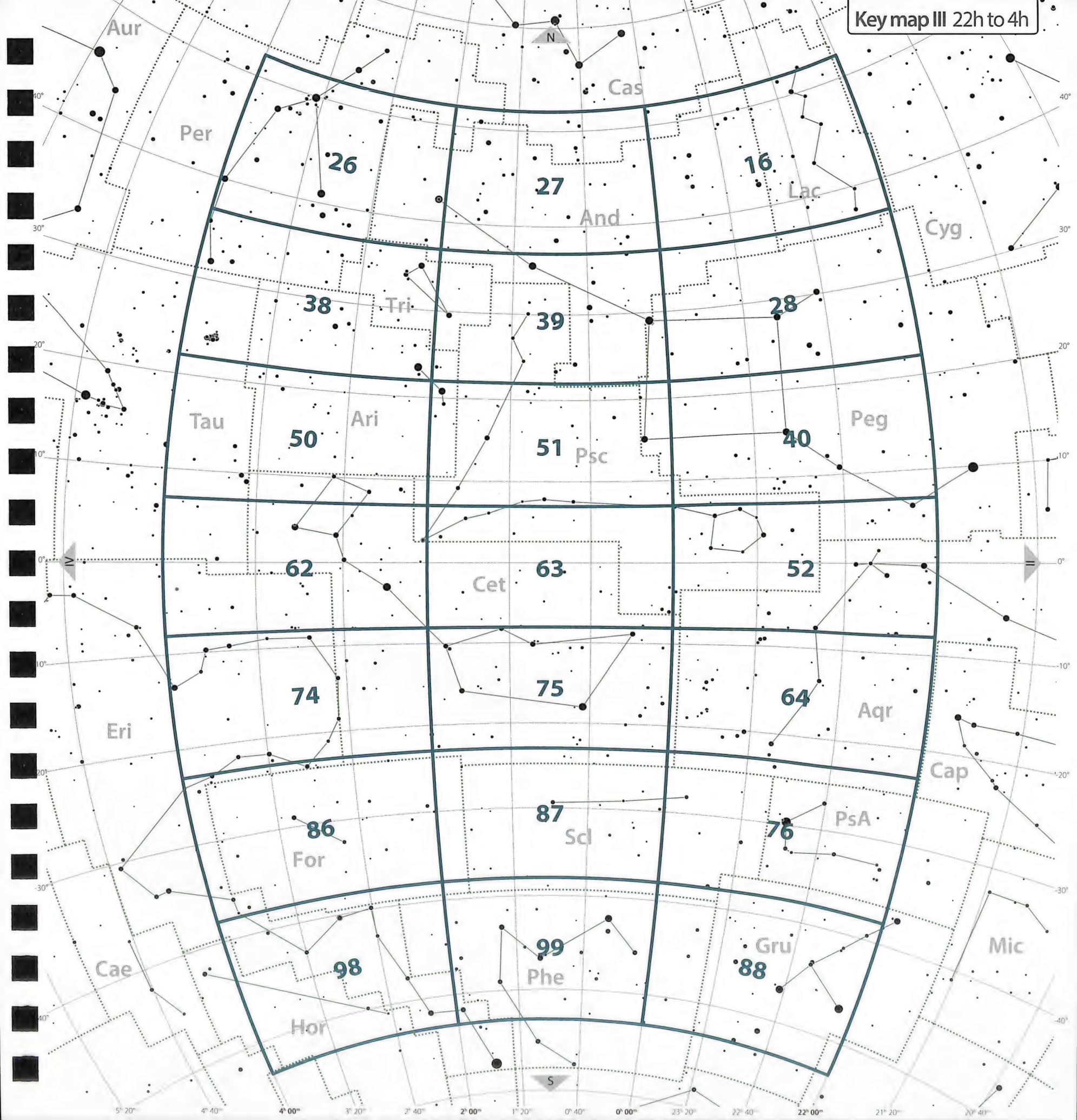




Key map II 16h to 22h

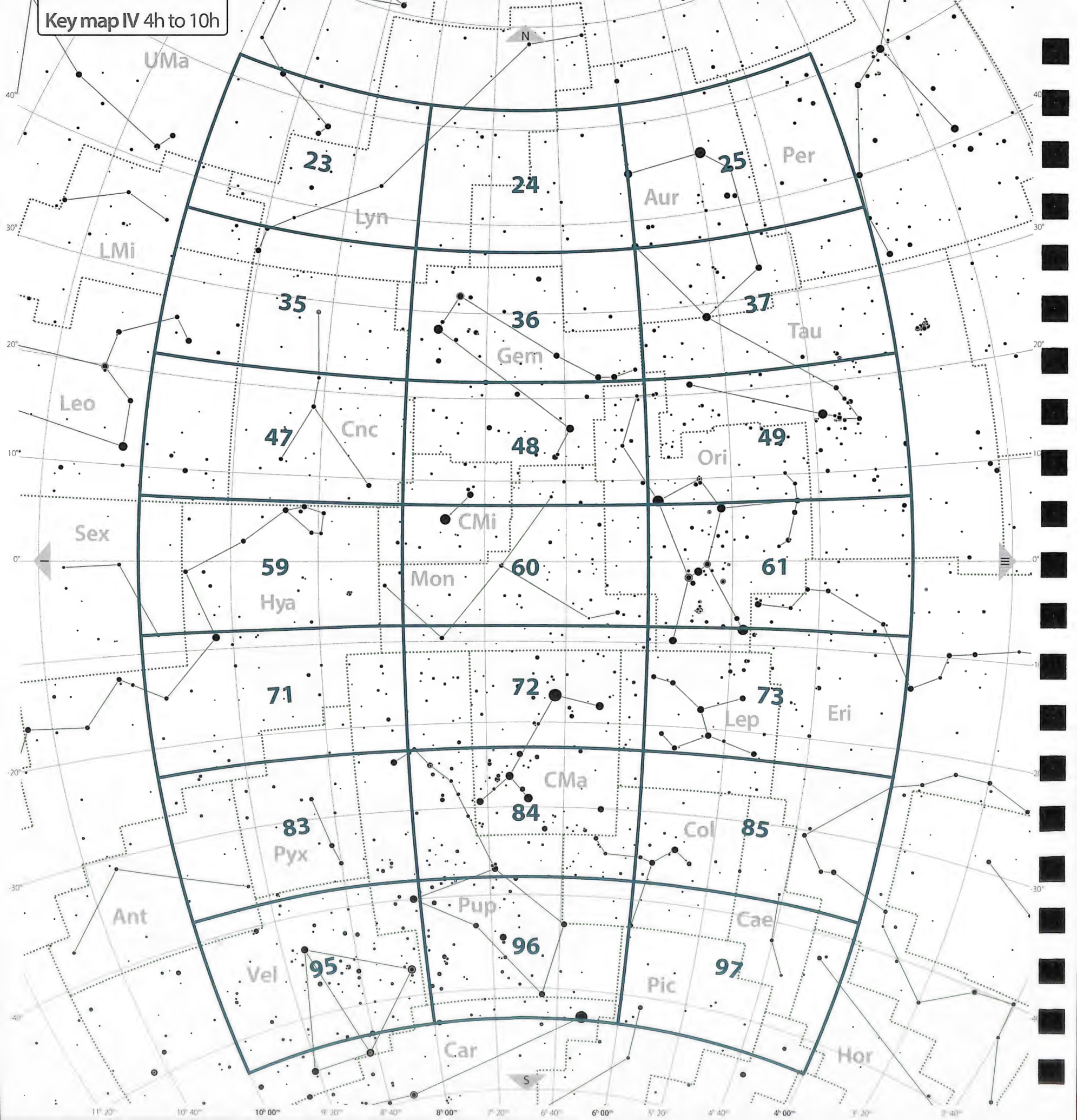




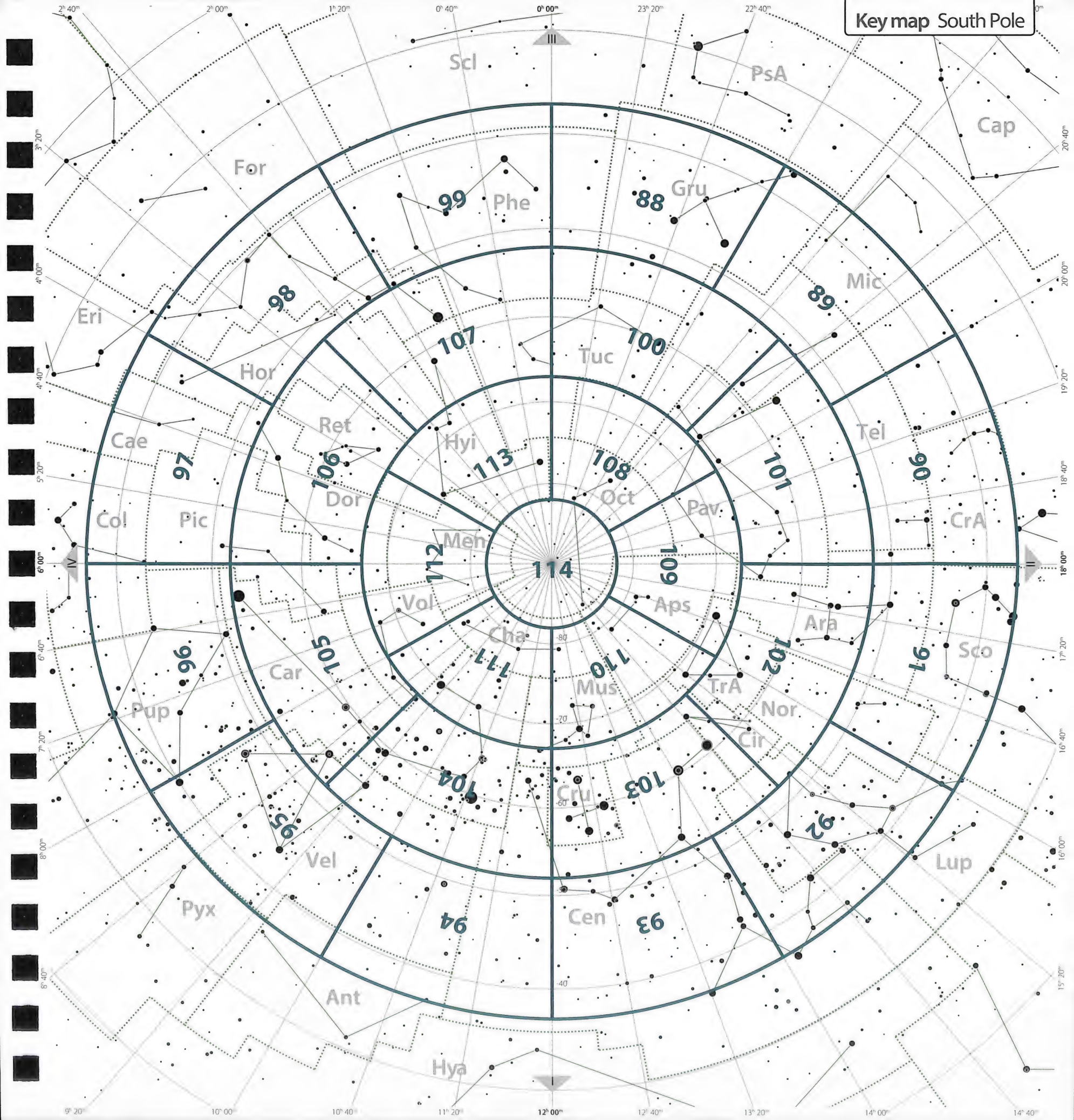




Key map IV 4h to 10h









## List of catalog abbreviations

This list contains the most important abbreviations for object designations.

### Miscellaneous object types

|      |                                      |
|------|--------------------------------------|
| ESO  | European Southern Observatory Survey |
| IC   | Index Catalogue                      |
| IRAS | Infrared Astronomical Satellite      |
| M    | Messier                              |
| NGC  | New General Catalogue                |

### Open clusters, asterisms, and star clouds

|        |  |
|--------|--|
| Al     | Alessi                                 |
| Al-Teu | Alessi-Teutsch                         |
| ASCC   | All-Sky Compiled Catalogue             |
| Bar    | Barkhatova                             |
| Bas    | Basel                                  |
| BCDSP  | Bica-Claria-Dottori-Santos-Piatti      |
| Be     | Berkeley                               |
| Bi     | Biurakan                               |
| Bo     | Bochum                                 |
| BRHT   | Bhatia-Read-Hatzidimitriou-Tritton     |
| BSDL   | Bica-Schmitt-Dutra-Oliveira            |
| C      | Cluster                                |
| Cz     | Czernik                                |
| DC     | Drake Cluster                          |
| Dias   | Dias                                   |
| DoDz   | Dolidze-Dzimsejshvili                  |
| Elo    | Elosser                                |
| FSR    | Froebrich-Scholz-Raftery               |
| H      | Harvard                                |
| Ho     | Hogg                                   |
| Hrr    | Harrington                             |
| HS     | Hodge-Sexton                           |
| HW     | Hodge-Wright                           |
| Kar    | Karhula                                |
| KMHK   | Kontizas-Morgan-Hatzidimitiou-Kontizas |
| KMK    | Kontizas-Metaxa-Kontizas               |
| KMK88  | Kontizas-Metaxa-Kontizas, 1988         |
| Kp     | Koposov                                |
| Kron   | Kron                                   |
| Le-Wa  | Levy-Wallach                           |
| Lin    | Lindsay                                |
| Lor    | Lorenzin                               |
| LW     | Lynga-Westerlund                       |
| Ly     | Lynga                                  |
| Mel    | Melotte                                |
| Mrk    | Markarian                              |
| Pfl    | Pfleiderer                             |
| Pi     | Pismis                                 |
| Pot    | Pothier                                |
| Ray    | Raymond                                |
| Ren    | Renou                                  |
| Ro     | Roslund                                |
| SAI    | Sternberg Astronomical Institute       |
| Sal    | Saloranta                              |
| Sher   | Sher                                   |
| Sk     | Skiff                                  |
| SL     | Shapley-Lindsay                        |
| Slo    | Slotegraaf                             |
| Sn     | Steine                                 |
| Spano  | Spano                                  |
| Sr     | Saurer                                 |
| St     | Stock                                  |
| Steph  | Stephenson                             |
| Stn    | Steine                                 |
| Str    | Streicher                              |
| Teu    | Teutsch                                |
| Tom    | Tombaugh                               |
| TPK    | Teutsch-Patchick-Kronberger            |
| Tu     | Turner                                 |
| Wa     | Waterloo                               |
| We     | Westerlund                             |

### Planetary nebulae

|      |                                       |
|------|---------------------------------------|
| Ap   | Apriamasvili                          |
| BlDz | Blaauw-Danziger                       |
| BoBn | Boeshaar-Bond                         |
| BV   | Böhm-Vitense                          |
| CGMW | Candidate Galaxy behind the Milky Way |

|         |  |
|---------|--|
| Cn      | Cannon   |
| CRL     | Cambridge Research Lab                             |
| CTSS    | Capellaro-Turatto-Salvadori-Sabbadin               |
| DD      | Dolidze  |
| DdDm    | Dolidze-Dzimsejshvili                              |
| DeHt    | Dengl-Hartl  |
| EGB     | Ellis-Gray-Bond                                    |
| Fg      | Fleming  |
| GLMP    | Garcia-Lario-Manchado-Pych                         |
| H       | Haro   |
| HaTr    | Hartl-Tritton                                      |
| HaWe    | Hartl-Weinberger                                   |
| Hb      | Hubble   |
| HBC     | Herbig-Bell Catalogue                              |
| He      | Henize   |
| HFG     | Heckathorn-Fesen-Gull                              |
| HoCr    | Howell-Crisp                                       |
| Hu      | Humason  |
| HuBi    | Hu-Bibo  |
| HuDo    | Hu-Dong  |
| IPHASX  | INT/WFC Photometric Ha Survey eXtended object      |
| IsWe    | Ishida-Weinberger                                  |
| J       | Jonckheere   |
| Jn      | Jones  |
| JnEr    | Jones-Emberson                                     |
| K       | Kohoutek   |
| KFR     | Kerber-Furlan-Roth                                 |
| KjPn    | Kazarjan-Parsamjan                                 |
| Kron    | Kronberger   |
| LMC-SMP | Large Magellanic Cloud, Sanduleak-McConnell-Philip |

|         |  |
|---------|--|
| Lo      | Longmore   |
| LoTr    | Longmore-Tritton                                   |
| LSA     | Lundstrom-Stenholm-Acker                           |
| M       | Minkowski  |
| MA      | Maehara  |
| MaC     | MacConnell   |
| Me      | Merrill  |
| MGP     | Manchado-Garcia-Lario-Pottasch                     |
| MRMG    | Manchado-Riera-Mampaso-Garcia-Lario                |
| MWP     | Motch-Werner-Pakull                                |
| MyCn    | Mayall-Cannon                                      |
| Mz      | Menzel   |
| NeVe    | Neckel-Vehrenberg                                  |
| P       | Perek  |
| PB      | Peimbert-Batiz                                     |
| PBOZ    | Pottasch-Bignell-Olling-Zijlstra                   |
| PC      | Peimbert-Costero                                   |
| Pe      | Perek  |
| PHR     | Parker-Hartley-Russell                             |
| PM      | Preite-Martinez                                    |
| PPA     | Peynaud-Parker-Acker                               |
| PuWe    | Purgathofer-Weinberger                             |
| RCW     | Rodgers-Campbell-Whiteoak                          |
| Sa      | Sanduleak  |
| SaSt    | Sanduleak-Stephenson                               |
| SaWe    | Sanduleak-Weinberger                               |
| SB      | Sylvie Beaulieu                                    |
| ShWi    | Shaw-Wirth   |
| SMC-MG  | Small Magellanic Cloud, Morgan-Good                |
| SMC-SMP | Small Magellanic Cloud, Sanduleak-McConnell-Philip |

|       |                                |
|-------|--------------------------------|
| Sp    | Shapley                        |
| Steph | Stephenson                     |
| StWr  | Stock-Wroblewski               |
| SwSt  | Swings-Struve                  |
| TDC   | Thompson-Djorgopovski-Carvalho |
| TeJu  | Terzan-Ju                      |
| Th    | The                            |
| VBRC  | van den Bergh-Racine           |
| Vd    | Vandervoort                    |
| V-V   | Vorontsov-Veljaminov           |
| Vy    | Vysotski                       |
| W     | Weinberger                     |
| WeBo  | Webbink-Bond                   |
| WeDe  | Weinberger-Dengl               |
| WeSb  | Weinberger-Sabbadin            |
| Y-C   | Yale Columbia Observatory      |

### Galactic nebulae

|      |                                     |
|------|-------------------------------------|
| BFS  | Blitz-Fich-Stark                    |
| Ced  | Cederblad                           |
| CG   | Cometary Globule                    |
| CTB  | Caltech Observatory, list B         |
| DG   | Dorschner-Gürtler                   |
| DWB  | Dickel-Wendker-Bieritz              |
| GM   | Gyulbudaghian-Magakian              |
| GN   | Atlas Galaktischer Nebel            |
| Hen  | Henize                              |
| HH   | Herbig-Haro                         |
| LBN  | Lynds Bright Nebula                 |
| MWC  | Mount Wilson Observatory, Catalogue |
| PKS  | Parkes Observatory                  |
| RCW  | Rodgers-Campbell-Whiteoak           |
| Sh   | Sharpless                           |
| vdB  | van den Bergh                       |
| vdBH | van den Bergh-Herbst                |

### Dark nebulae

|     |                     |
|-----|---------------------|
| B   | Barnard             |
| LDN | Lynds Dark Nebula   |
| Sa  | Sandqvist           |
| SDC | Southern Dark Cloud |
| SL  | Sandqvist-Lindroos  |

### Globular clusters

|     |                            |
|-----|----------------------------|
| AL  | Andrews-Lindsay            |
| AM  | Arp-Madore                 |
| Bol | Bologna Observatory        |
| G   | (M 31) Globular            |
| HP  | Haute Provence             |
| Pal | Palomar                    |
| PWM | Pfleiderer-Weinberger-Ross |
| Ter | Terzan                     |
| Ton | Tonantzintla               |
| UKS | United Kingdom Schmidt     |

### Galaxies, groups, and clusters of galaxies

|      |  |
|------|--|
| CGCG | Catalogue of Galaxies and Clusters of Galaxies |
| HCG  | Hickson Compact Group                          |
| MCG  | Morphological Galaxies Catalogue               |
| Mrk  | Markarian                                      |
| PGC  | Principal Galaxies Catalogue                   |
| Shk  | Shakhbazian                                    |
| UGC  | Uppsala General Catalogue of Galaxies          |

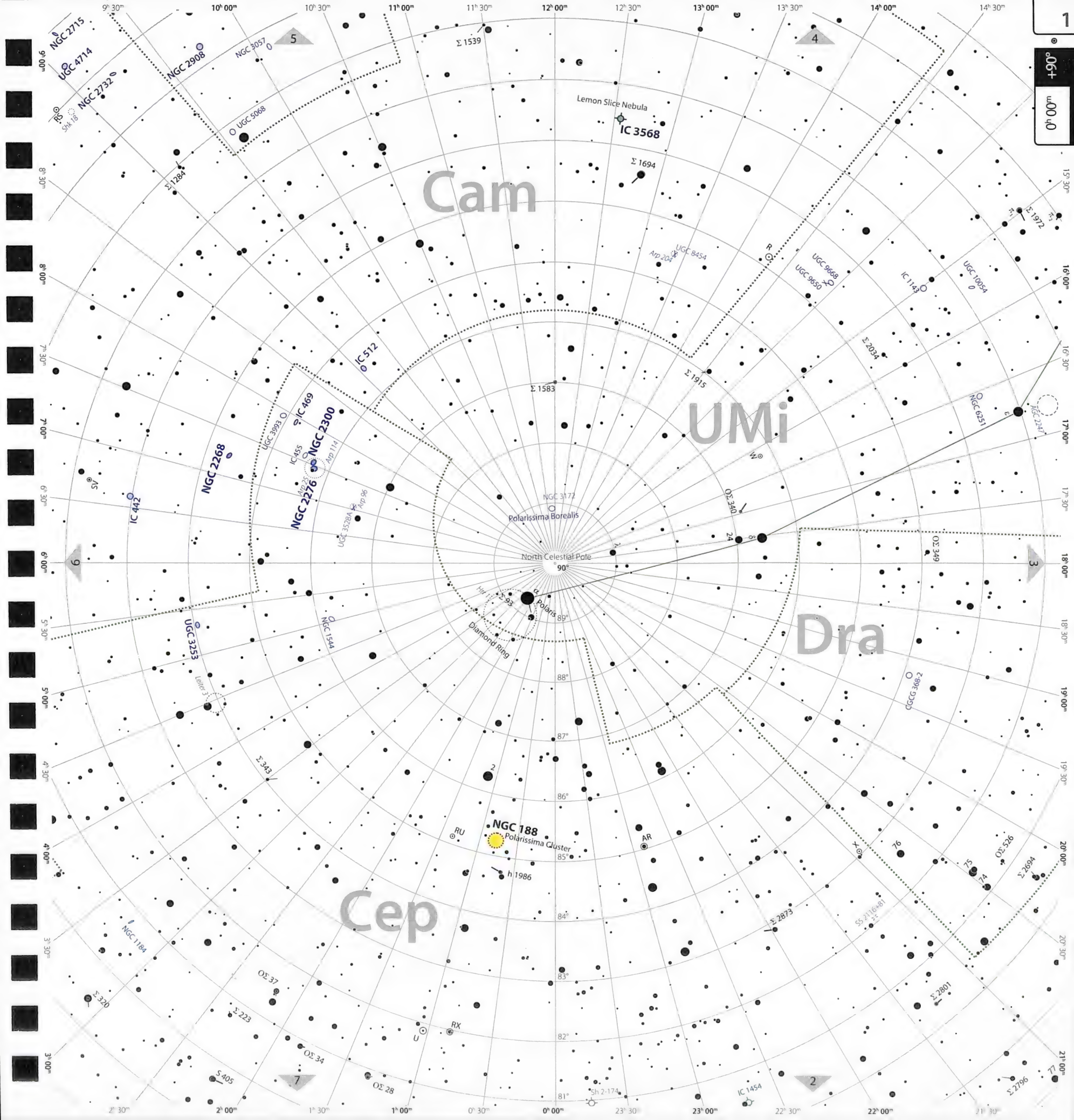
### Quasars

|    |                         |
|----|-------------------------|
| 3C | 3rd Cambridge Catalogue |
| PG | Palomar-Green           |

### Double stars

|      |                          |
|------|--------------------------|
| A    | Aitken                   |
| AC   | Alvan Clark              |
| B    | van den Bos              |
| BrsO | Brisbane Observatory     |
| β    | Burnham                  |
| CorO | Cordoba Observatory      |
| Δ    | Dunlop                   |
| Es   | T. Espin                 |
| Gli  | J. M. Gillis             |
| H    | William Herschel         |
| h    | John Herschel            |
| Lac  | G. B. Lacchini           |
| OΣ   | Otto Struve              |
| Rmk  | C. Rümker                |
| S    | James South              |
| Σ    | Friedrich Wilhelm Struve |
| Sh   | South-Herschel           |

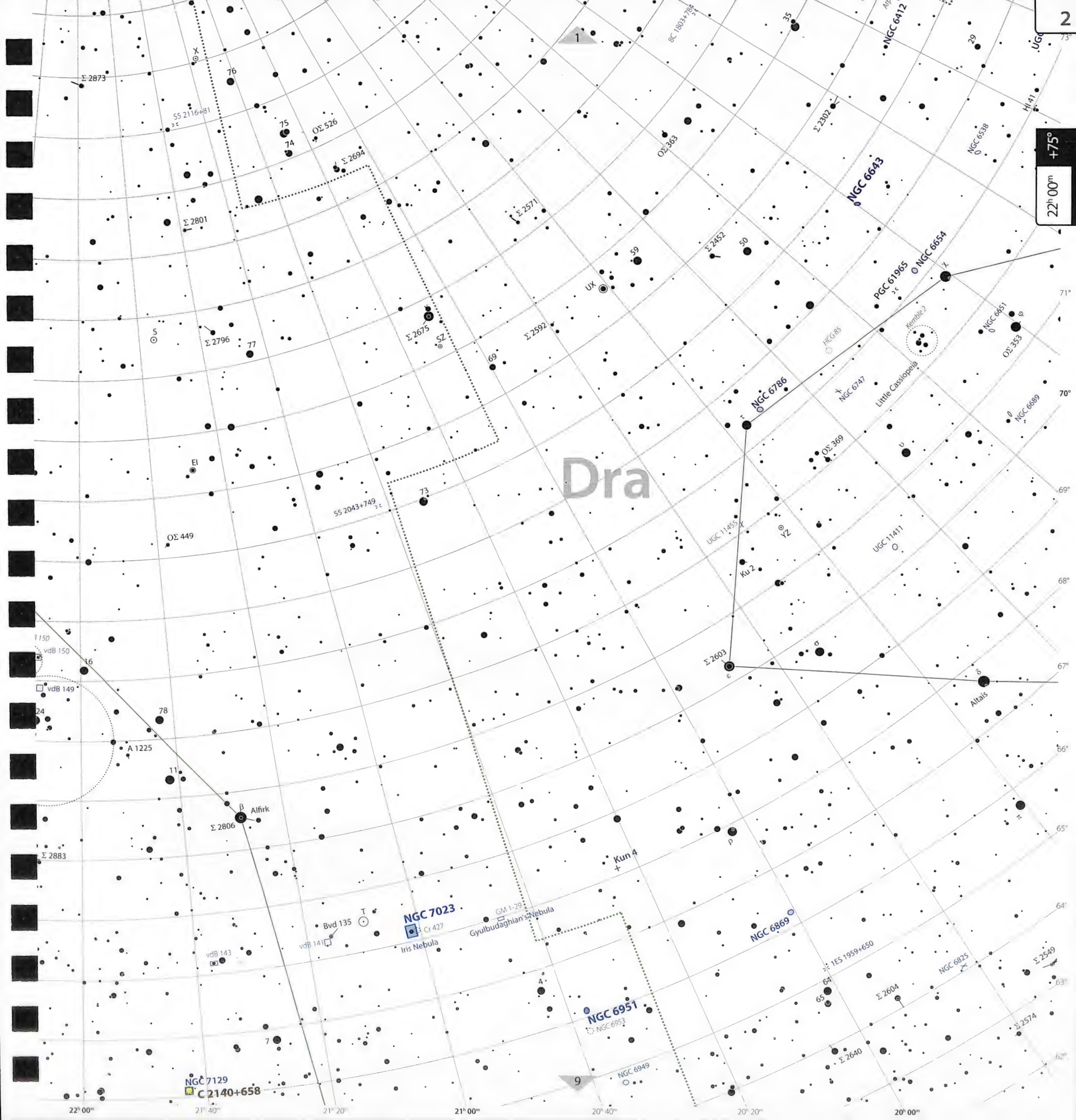












Dra

NGC 7023

Cr 427

Iris Nebula

GM 1-29  
Gyalbudaghian's Nebula

NGC 6951

NGC 6953

NGC 6949

NGC 6869

IC 1959+650

NGC 6825

Σ 2549

Σ 2574

NGC 6643

PGC 61965

NGC 6654

Kemble 2

Little Cassiopeia

UGC 11411

NGC 6786

NGC 6747

OS 369

Σ 2603

Altair

Kun 4

Bvd 135

vdB 141

vdB 143

NGC 7129

C 2140+658

OS 449

SS 2043+749

SS 2116+81

OS 526

Σ 2694

Σ 2801

Σ 2796

Σ 2675

Σ 2592

Σ 2452

Σ 2302

NGC 6538

NGC 6651

OS 353

NGC 6689

71°

70°

69°

68°

67°

66°

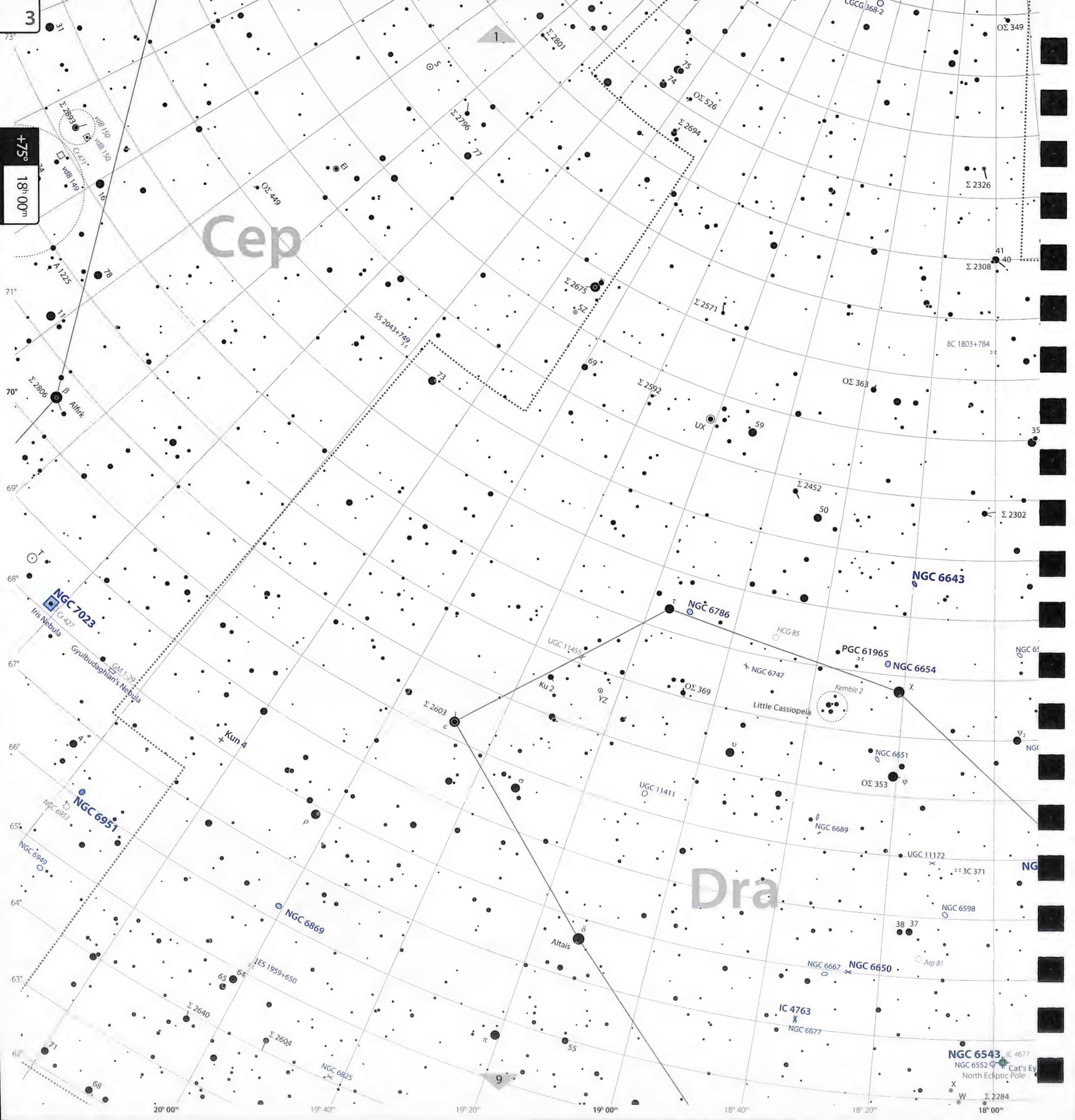
65°

64°

63°

62°





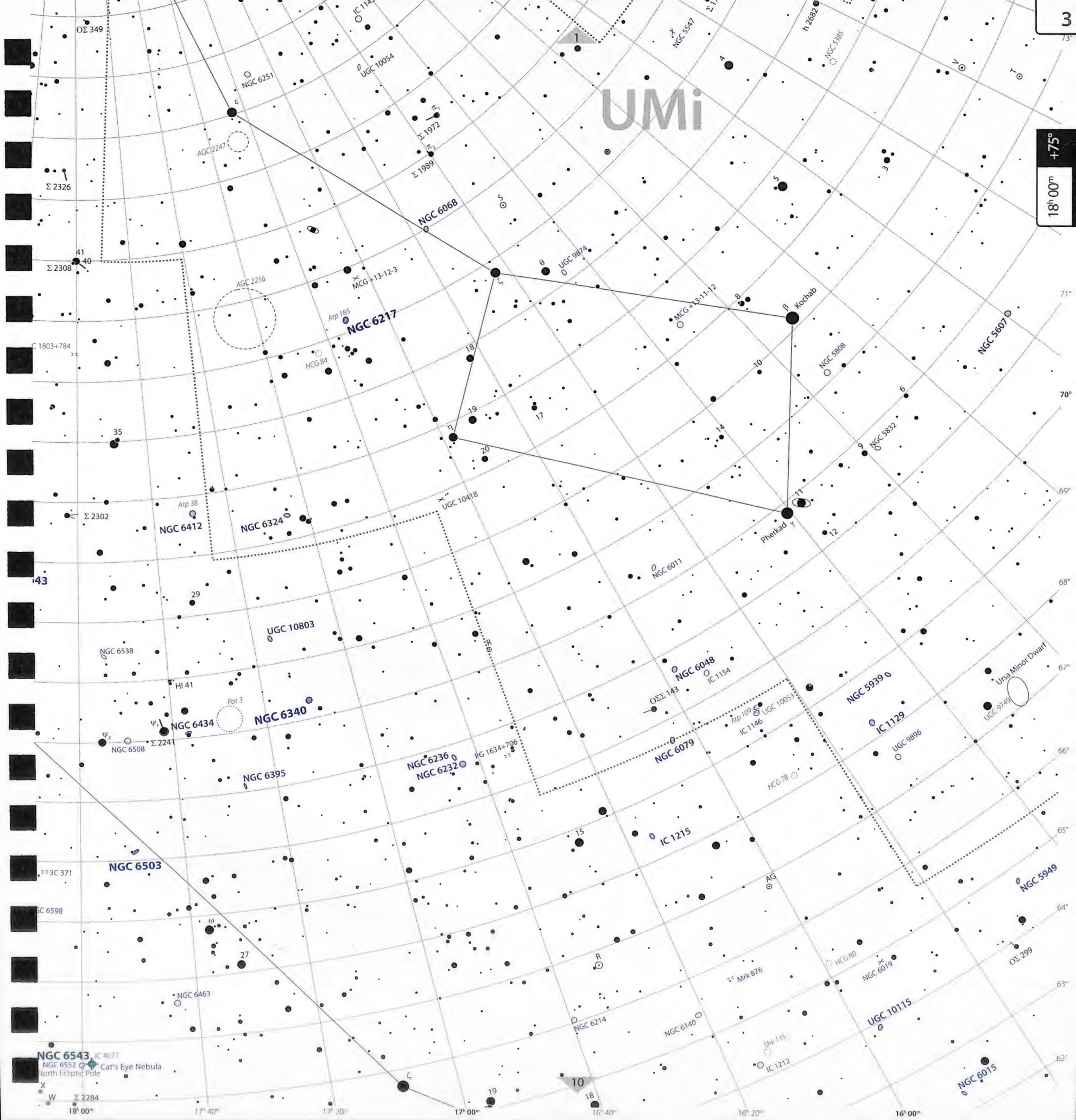
Cep

Dra

+75°  
18h 00m

NGC 6543  
NGC 6552  
Cat's Eye  
North Ecliptic Pole

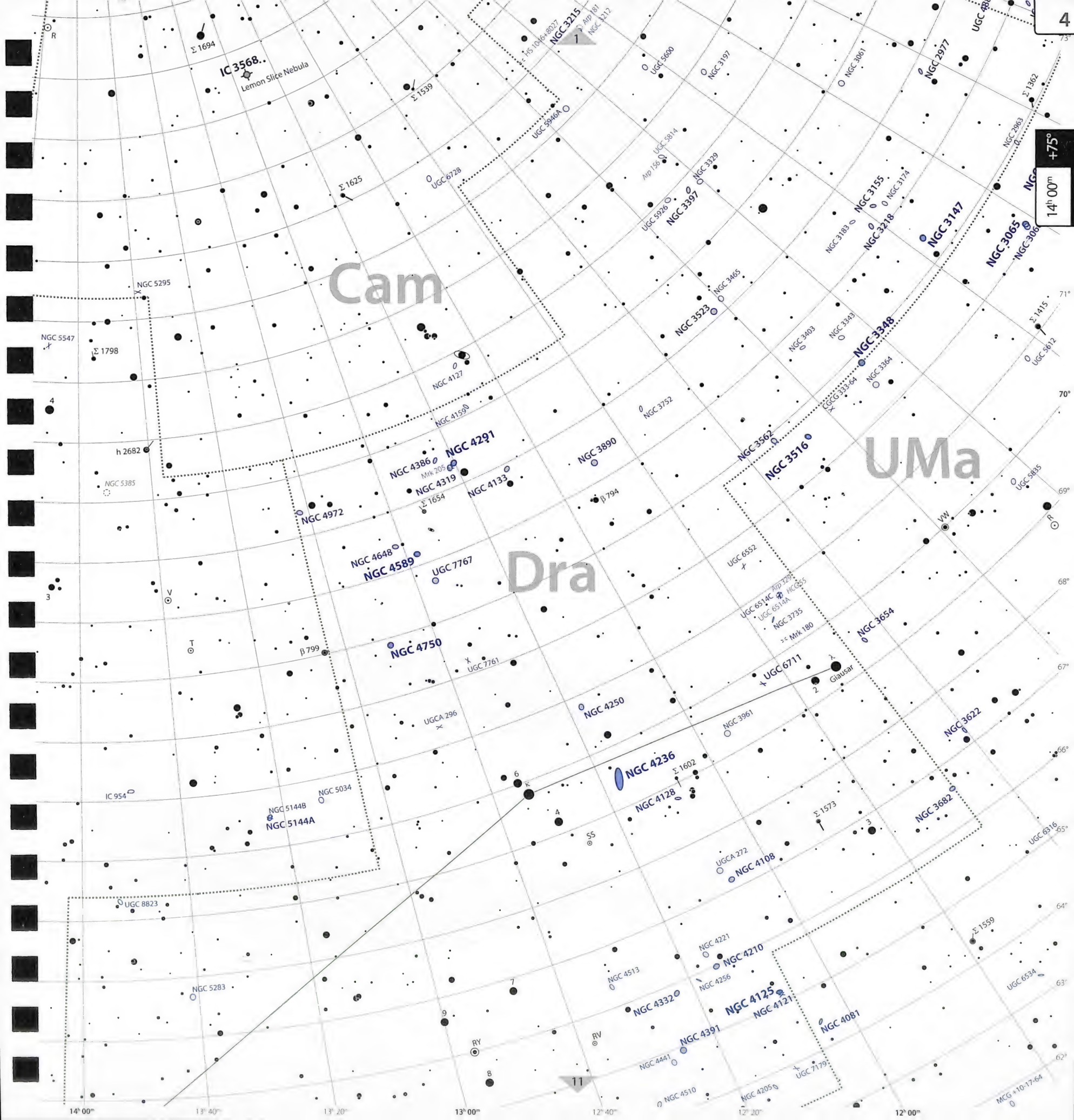












Cam

Dra

UMa

IC 3568.  
Lemon Slice Nebula

NGC 4386  
Mk 205  
NGC 4319  
Σ 1654  
NGC 4133  
NGC 4291

NGC 4648  
NGC 4589  
UGC 7767

NGC 4750

NGC 4236  
NGC 4128  
Σ 1602

UGC 272  
NGC 4108

NGC 4221  
NGC 4210  
NGC 4256

NGC 4332  
NGC 4391  
NGC 4441  
NGC 4510

NGC 4125  
NGC 4121  
NGC 4081

NGC 3654

NGC 3682

NGC 3622

NGC 3348  
NGC 3343  
NGC 3340  
NGC 3338

NGC 3155  
NGC 3174  
NGC 3183

NGC 3147

NGC 3065  
NGC 3064

NGC 2977

NGC 2863

NGC 2862

NGC 2861

NGC 2860

NGC 2859

NGC 2858

NGC 2857

NGC 2856

NGC 2855

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NGC 2853

NGC 2852

NGC 2851

NGC 2850

NGC 2849

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NGC 2846

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NGC 2844

NGC 2843

NGC 2842

NGC 2841

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NGC 2801

NGC 2800

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NGC 2763

NGC 2762

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NGC 2712

NGC 2711

NGC 2710

NGC 2709

NGC 2708

NGC 2707

NGC 2706

NGC 2705

NGC 2704

NGC 2703

NGC 2702

NGC 2701

NGC 2700

NGC 2699

NGC 2698

NGC 2697

NGC 2696

NGC 2695

NGC 2694

NGC 2693

NGC 2692

NGC 2691

NGC 2690

NGC 2689

NGC 2688

NGC 2687

NGC 2686

NGC 2685

NGC 2684

NGC 2683

NGC 2682

NGC 2681

NGC 2680

NGC 2679

NGC 2678

NGC 2677

NGC 2676

NGC 2675

NGC 2674

NGC 2673

NGC 2672

NGC 2671

NGC 2670

NGC 2669

NGC 2668

NGC 2667

NGC 2666

NGC 2665

NGC 2664

NGC 2663

NGC 2662

NGC 2661

NGC 2660

NGC 2659

NGC 2658

NGC 2657

NGC 2656

NGC 2655

NGC 2654

NGC 2653

NGC 2652

NGC 2651

NGC 2650

NGC 2649

NGC 2648

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NGC 2616

NGC 2615

NGC 2614

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NGC 2608

NGC 2607

NGC 2606

NGC 2605

NGC 2604

NGC 2603

NGC 2602

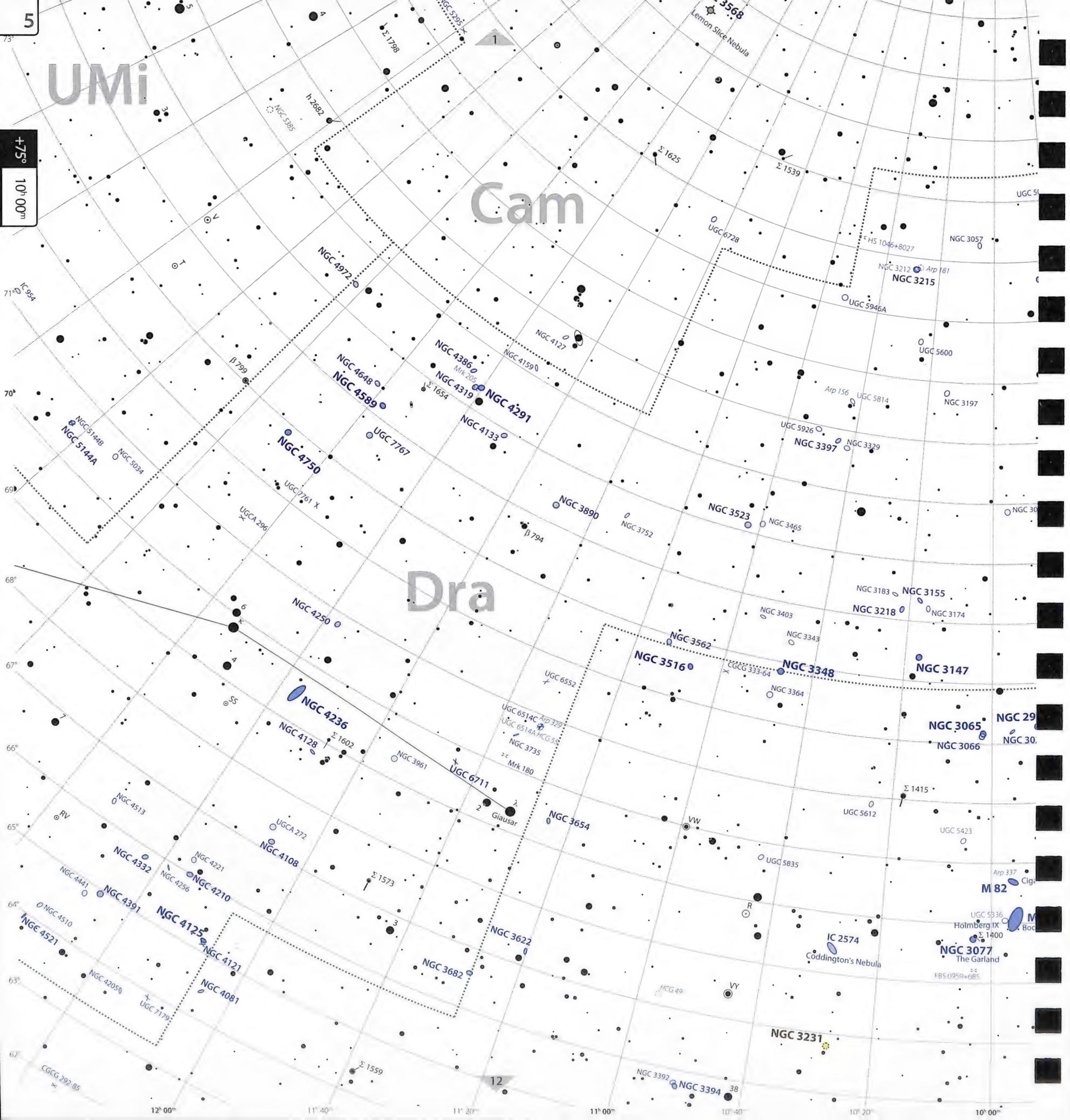
NGC 2601

NGC 2600

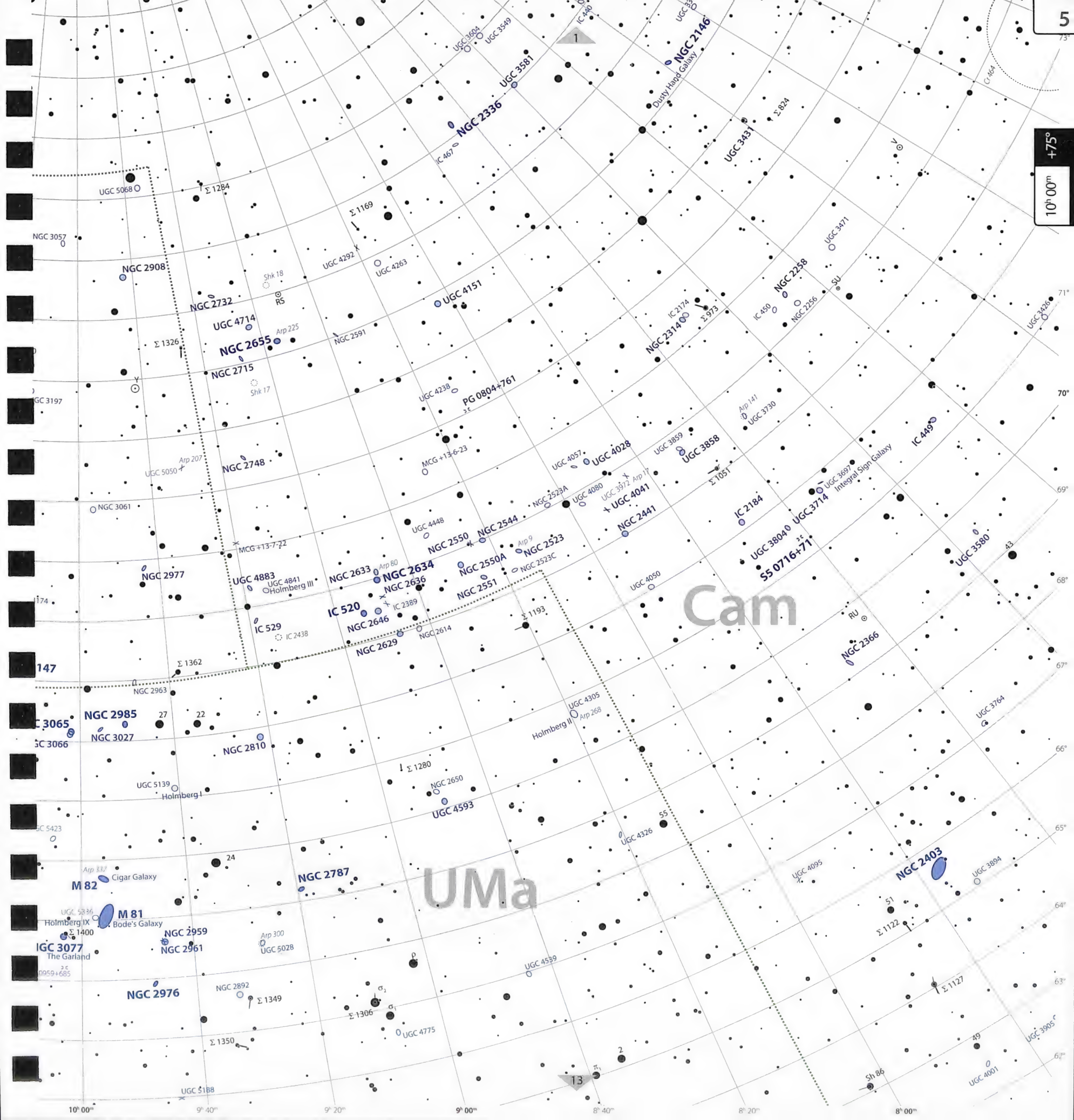
NGC 2599

NGC 2598

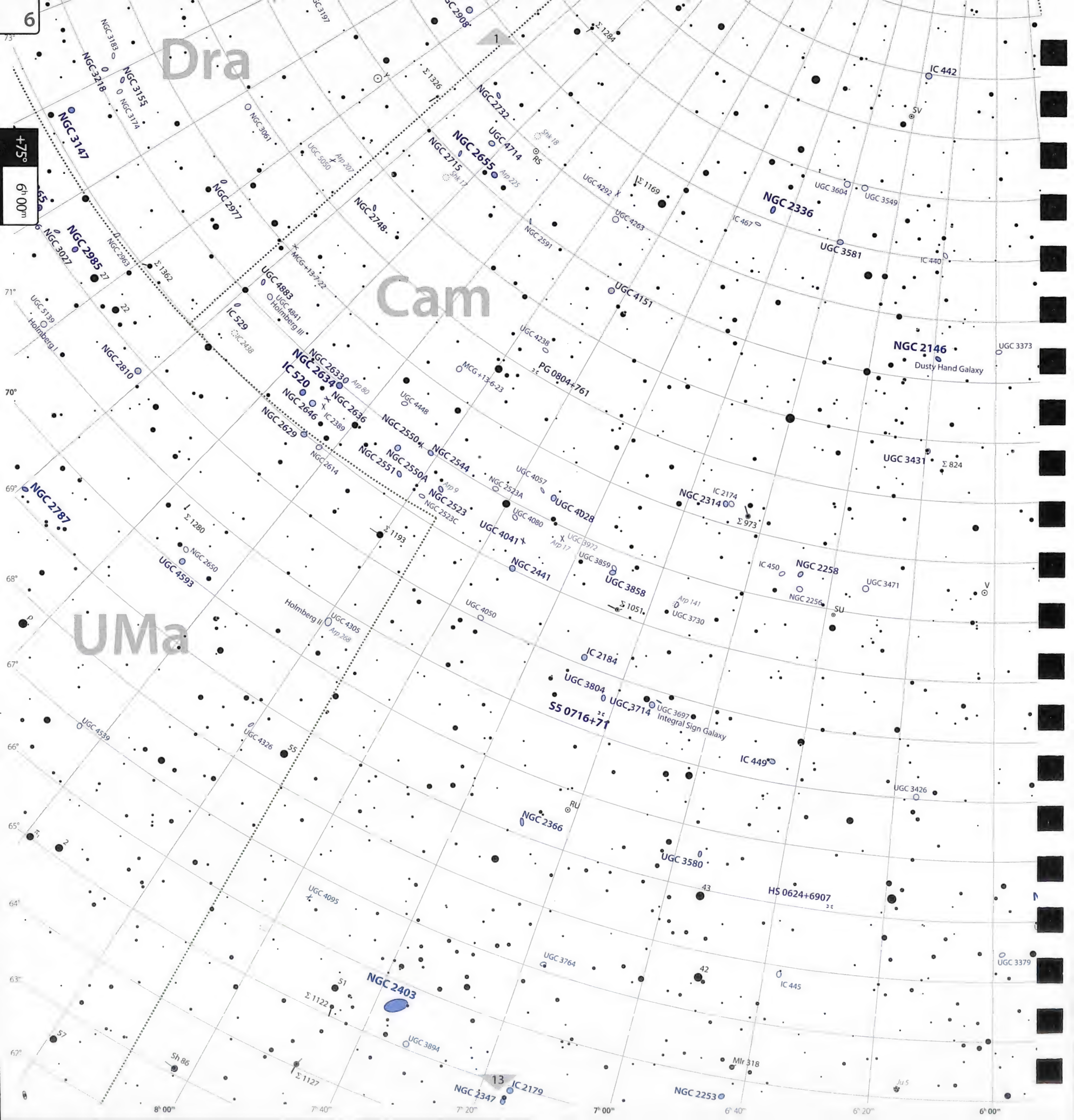












Dra

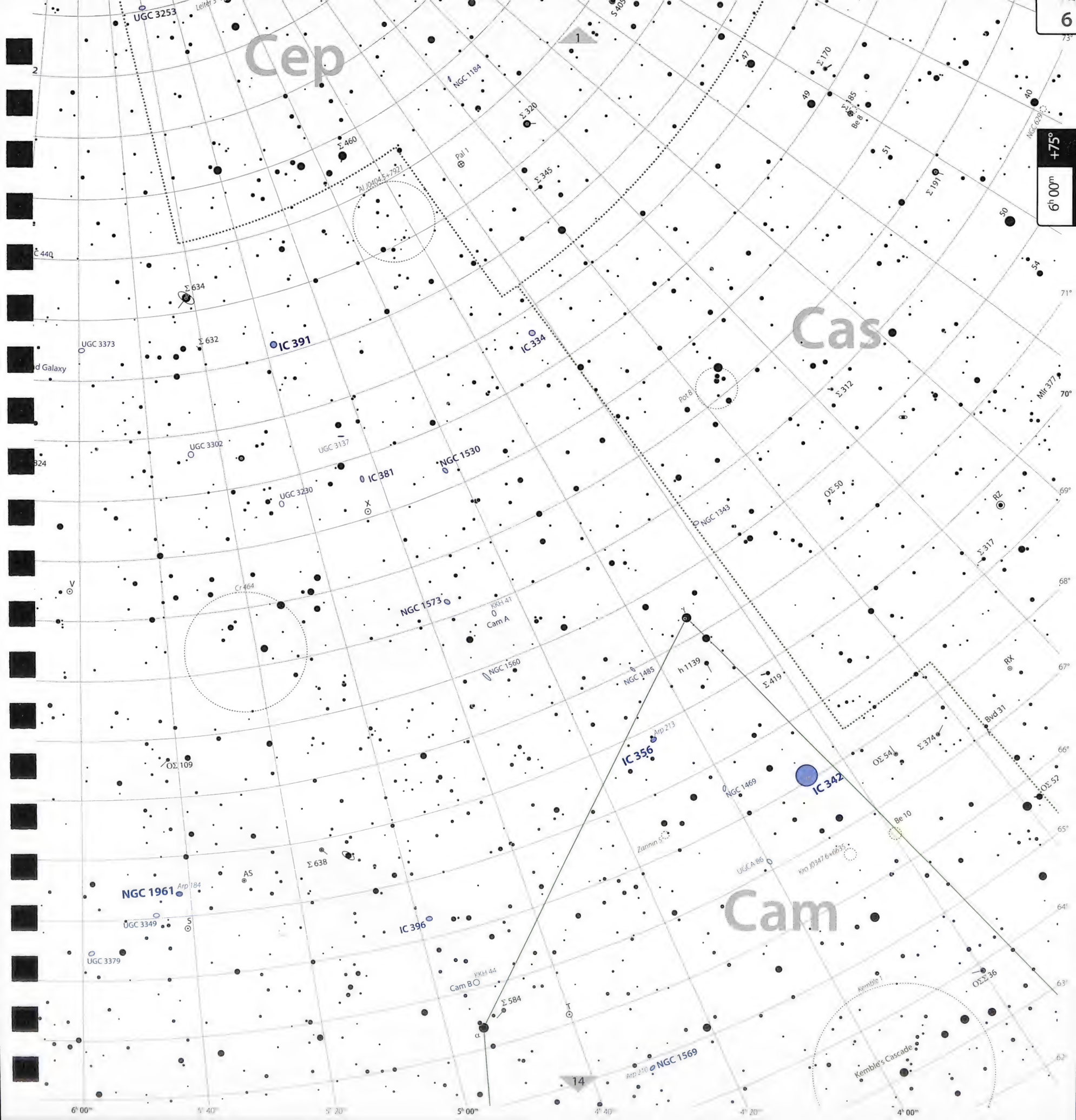
Cam

UMa

+75°  
6h 00m

6

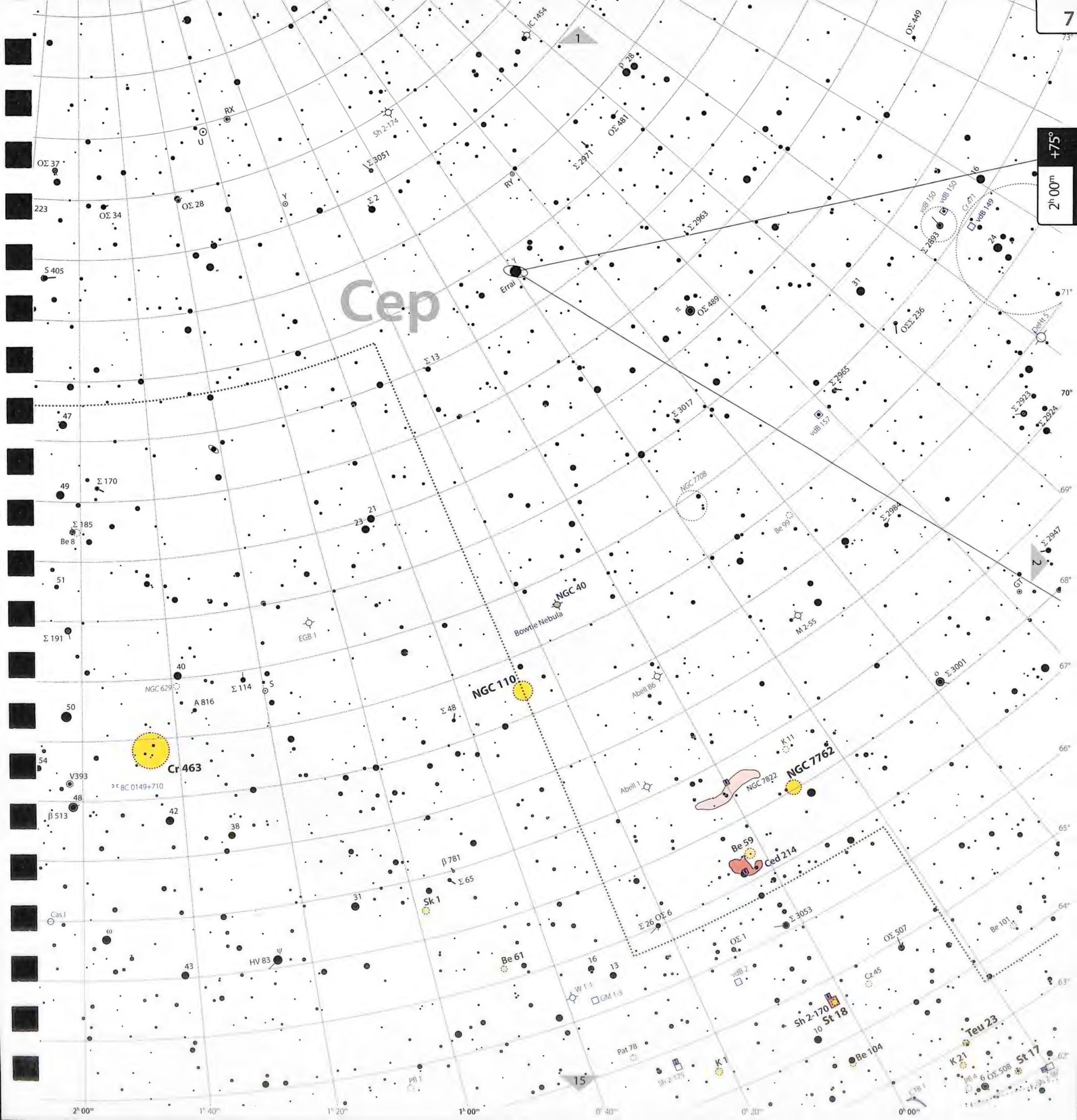












Cep

Erral

NGC 110

NGC 40  
Bowtie Nebula

Cr 463

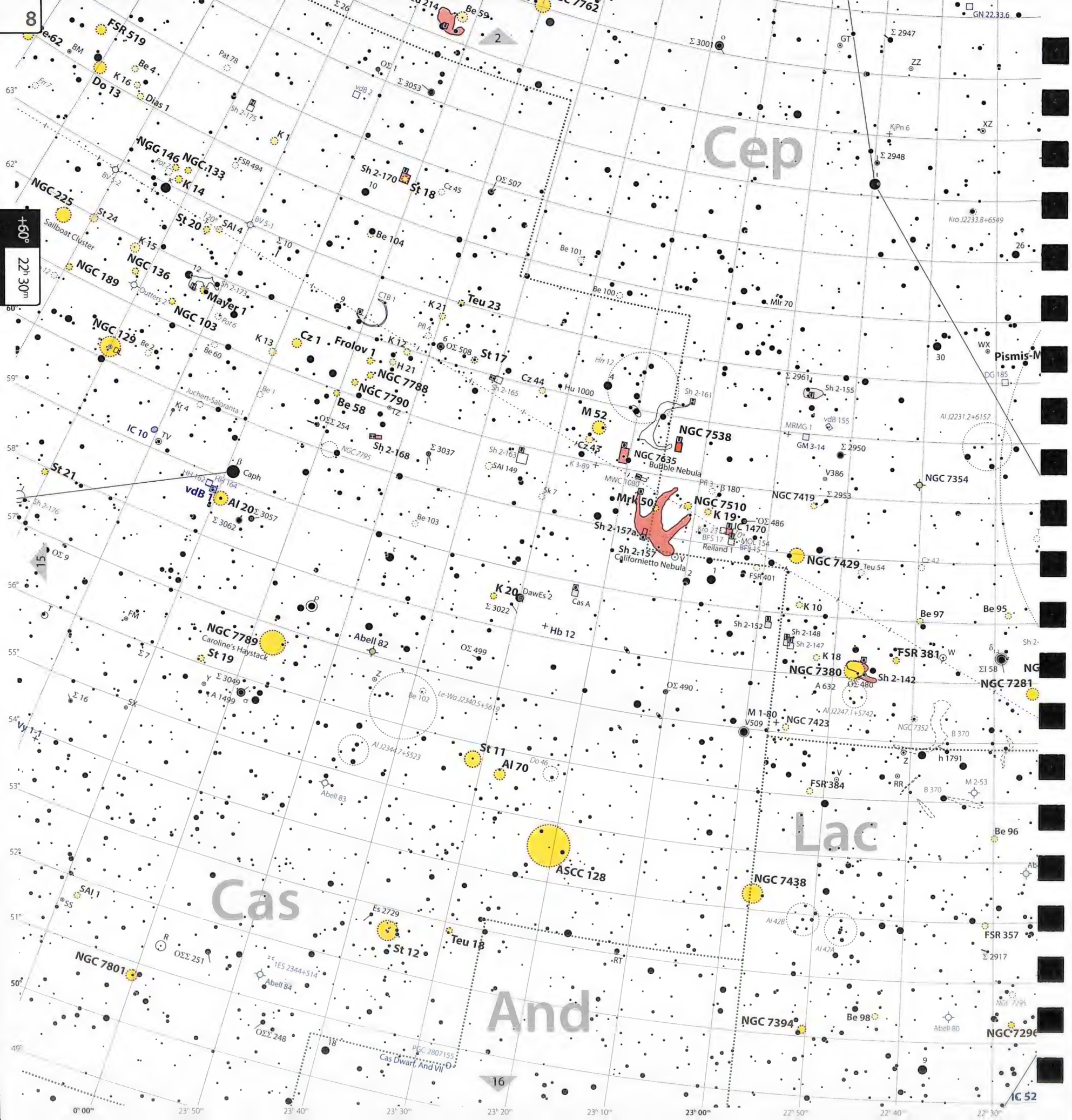
NGC 7762

Be 59  
Ced 214

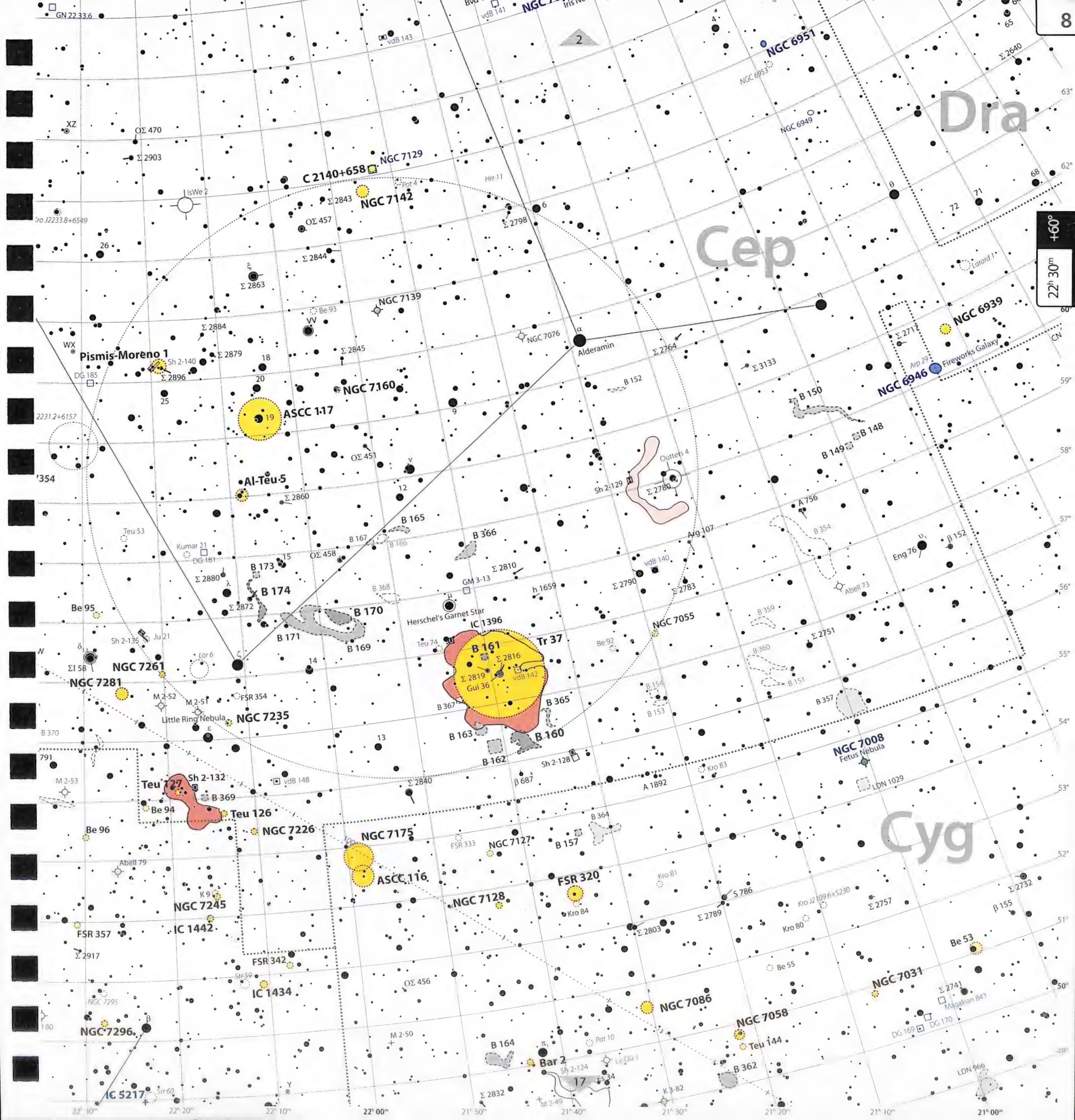
Teu 23

St 17

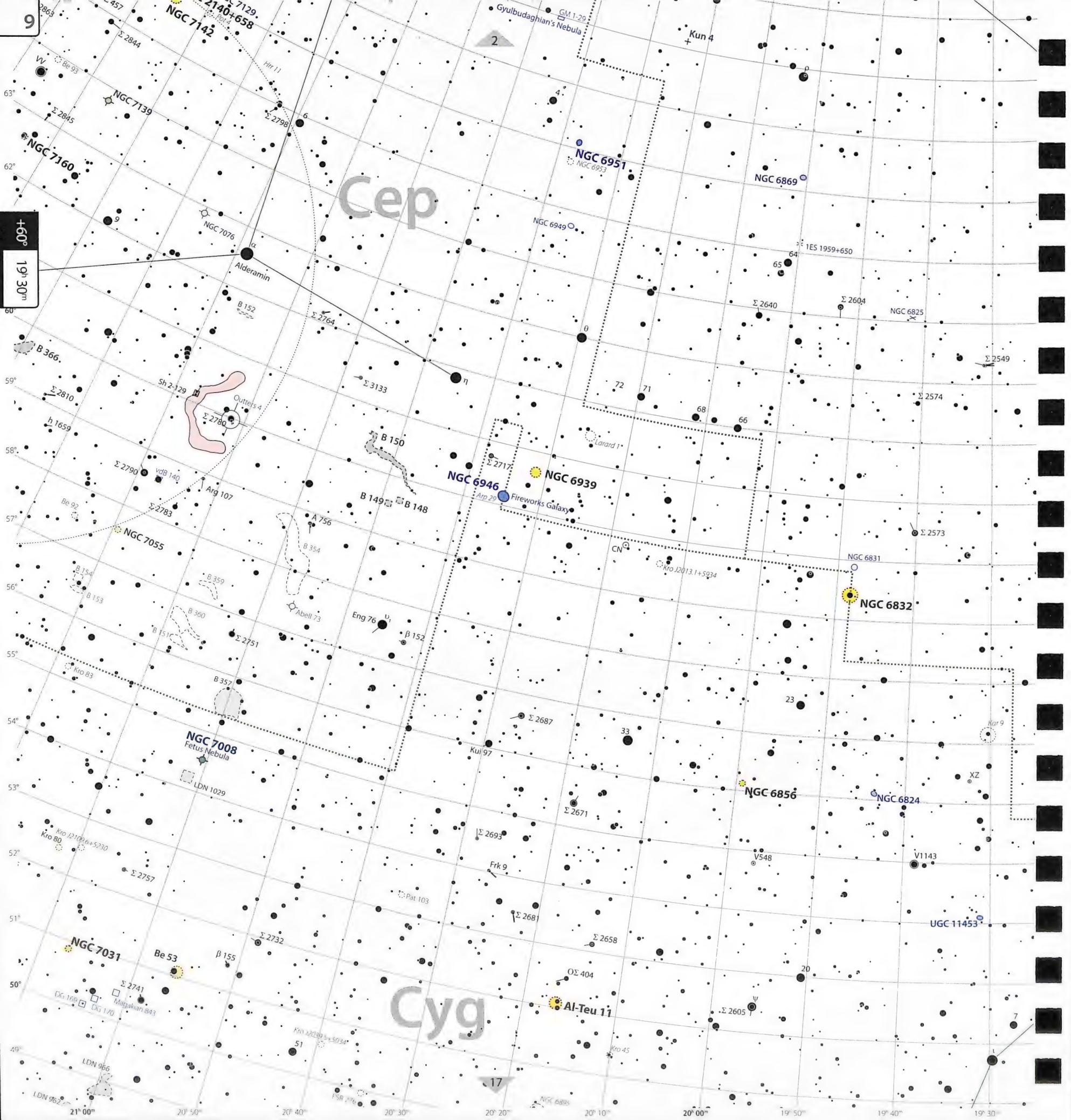








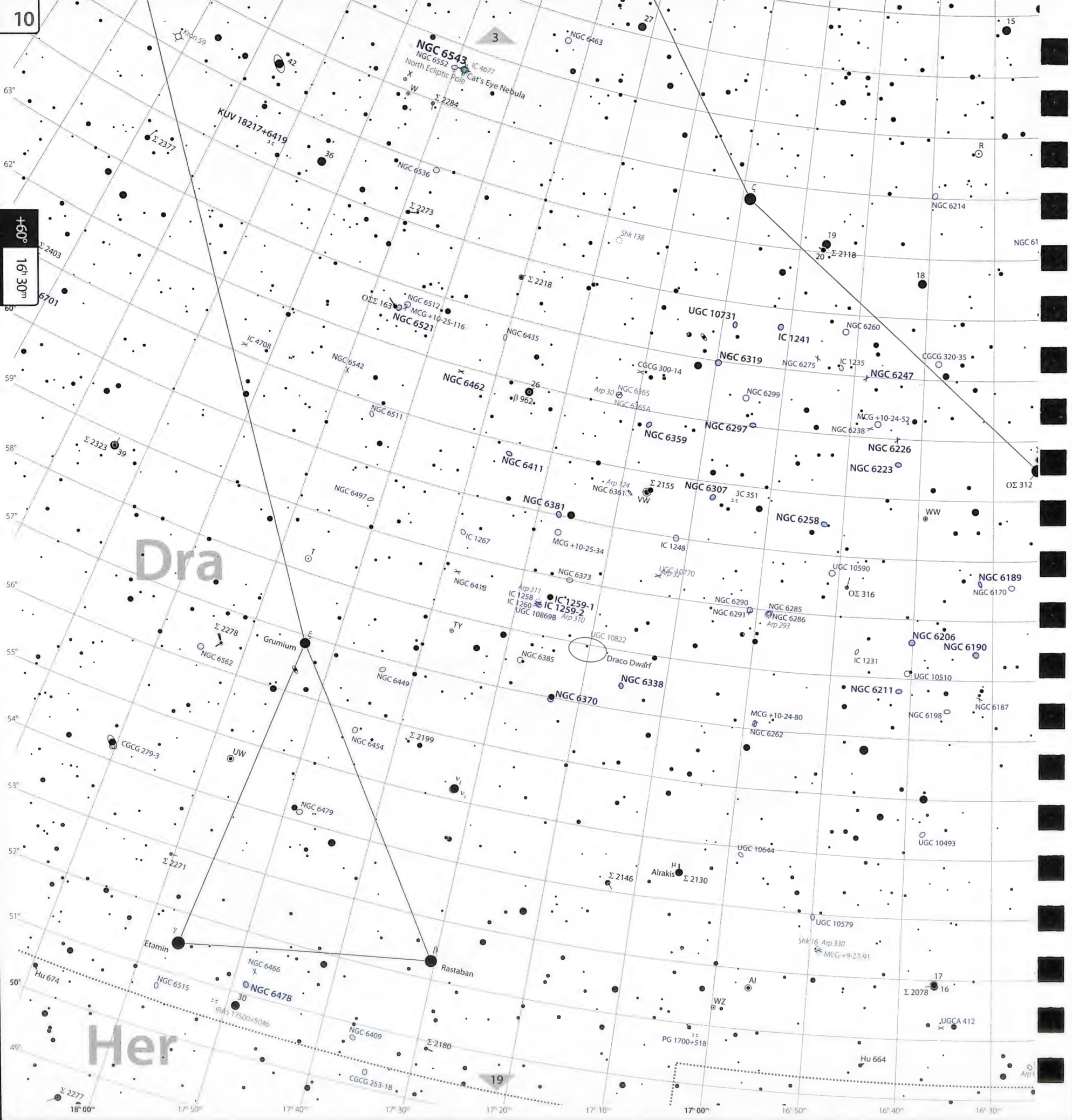








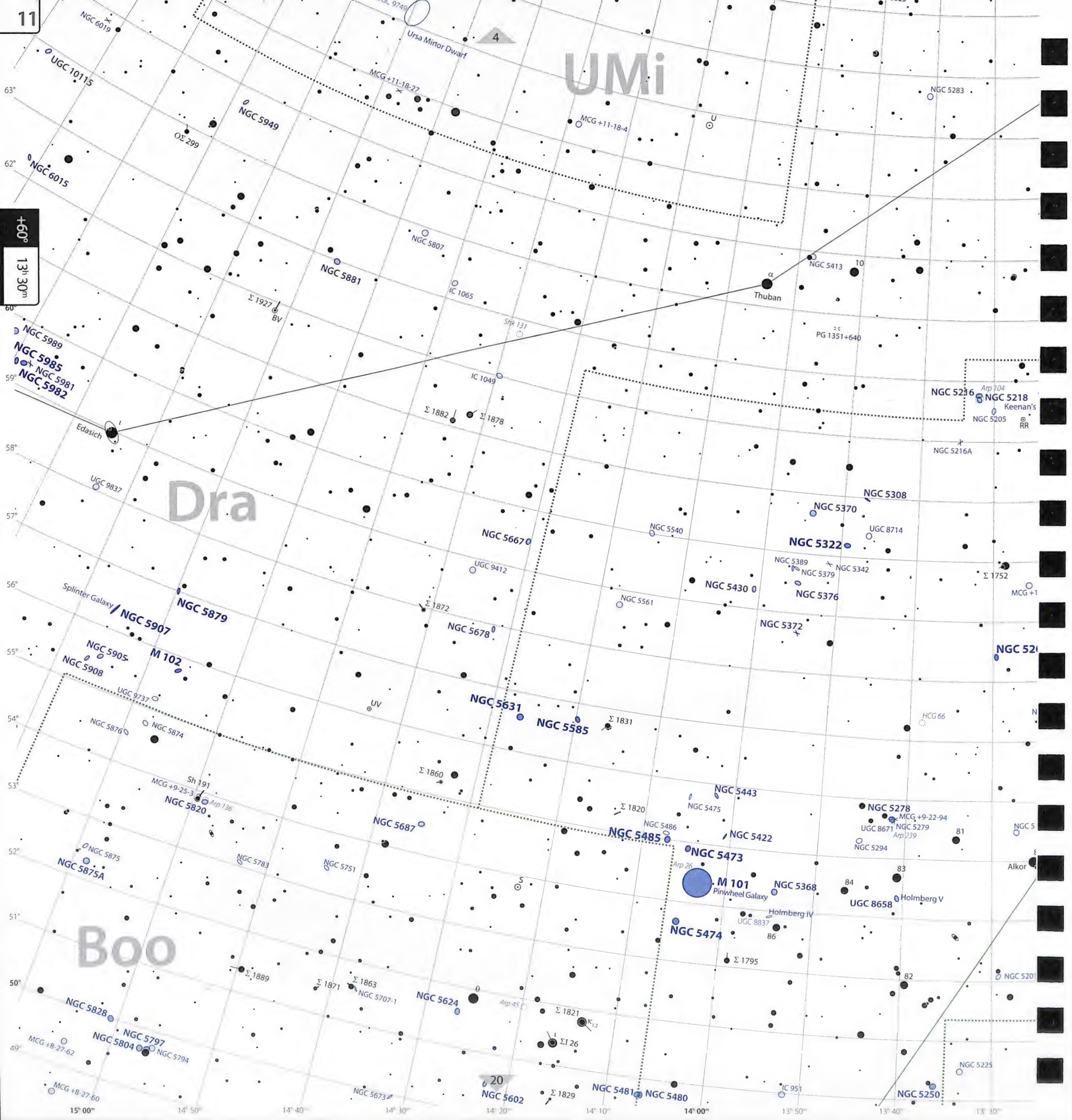










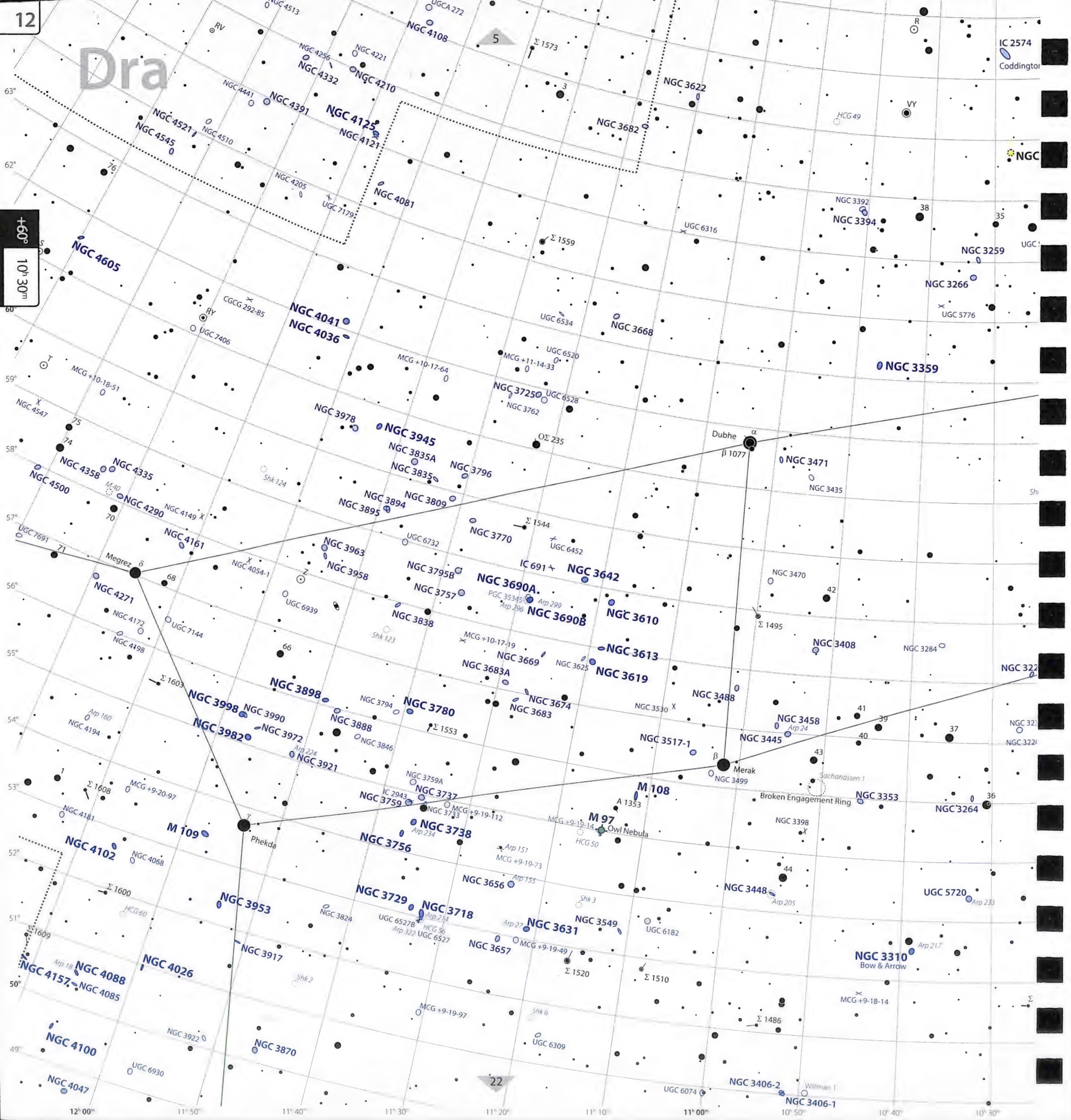




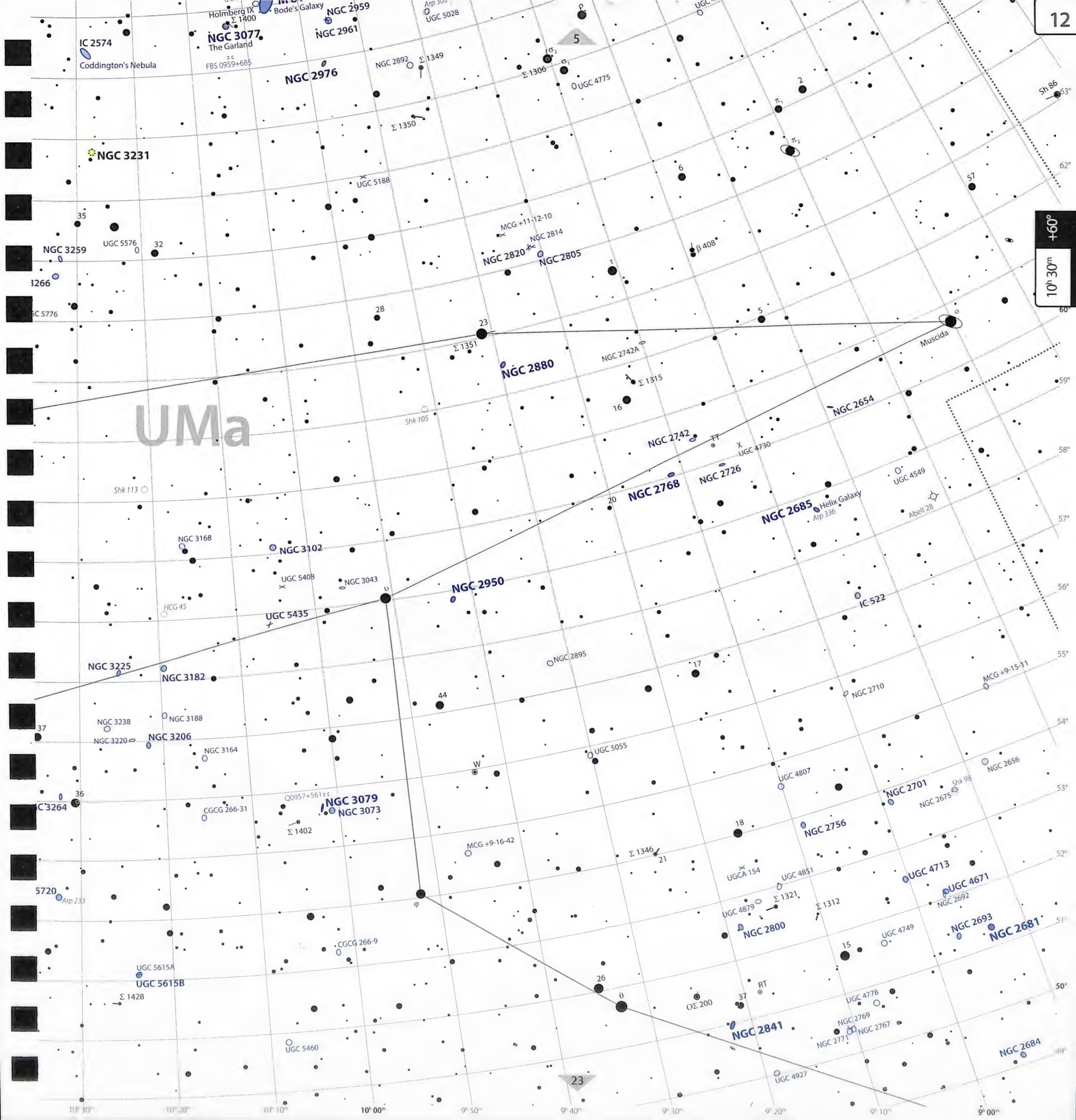
UMa

CVn





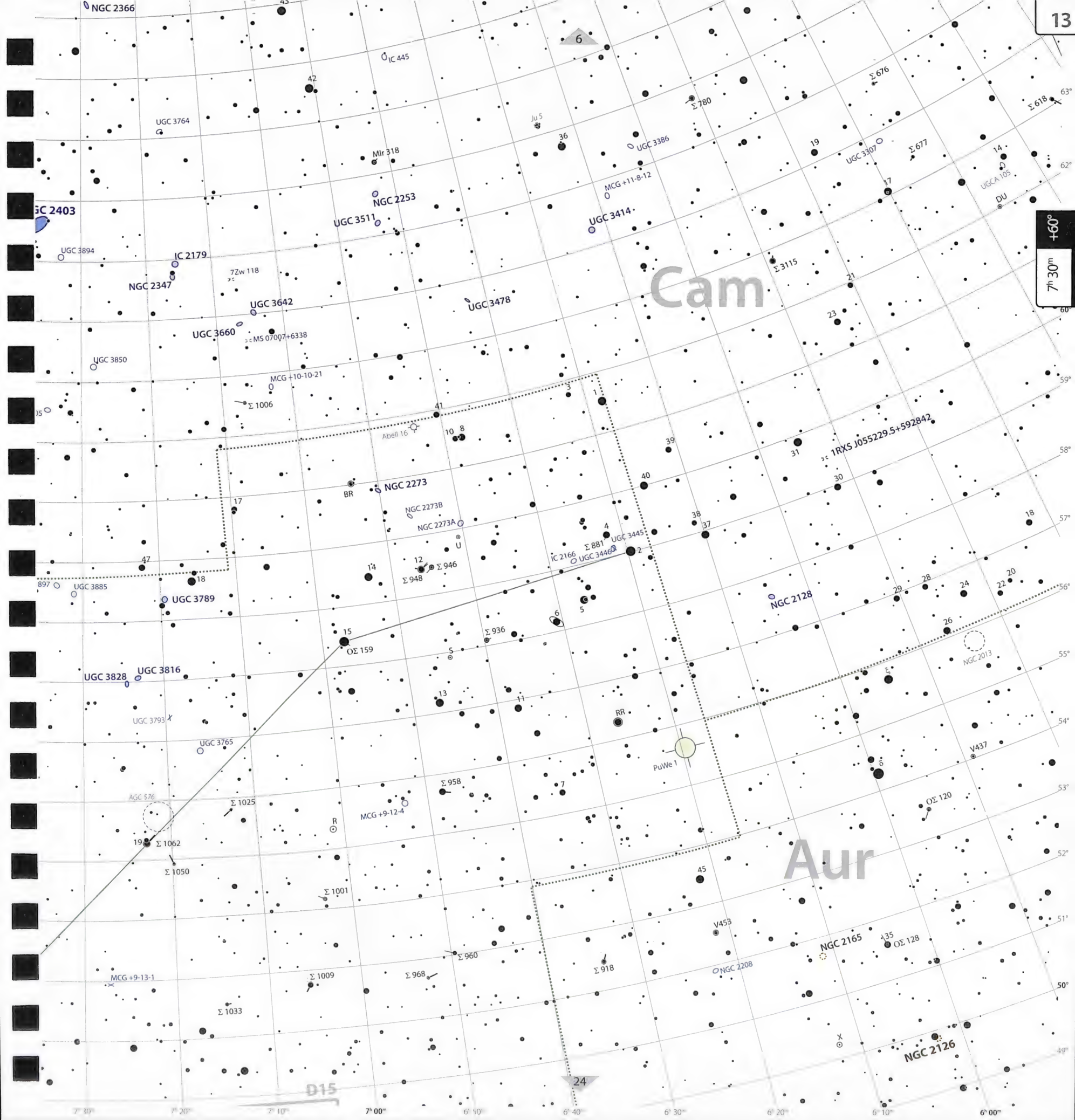








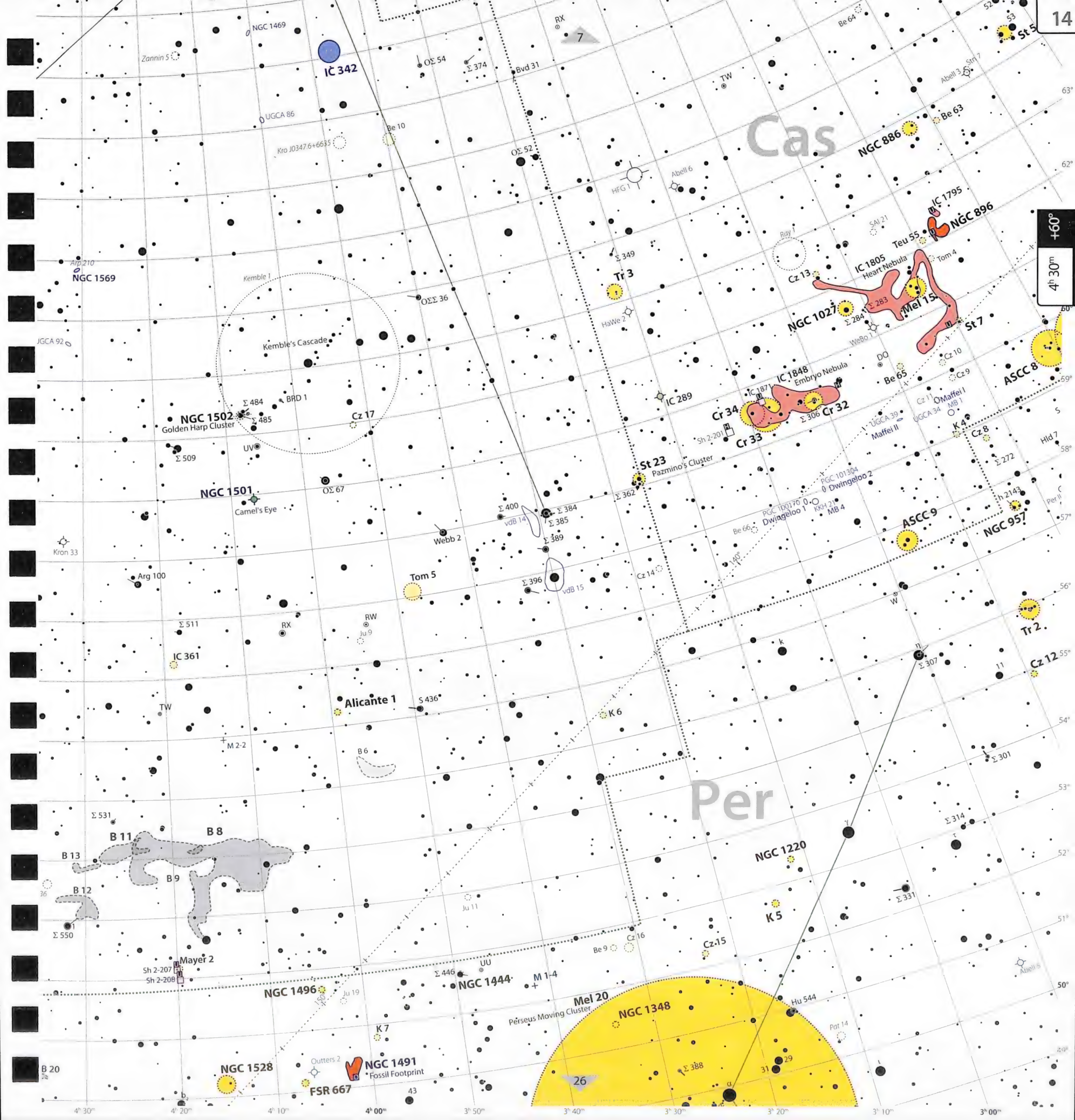








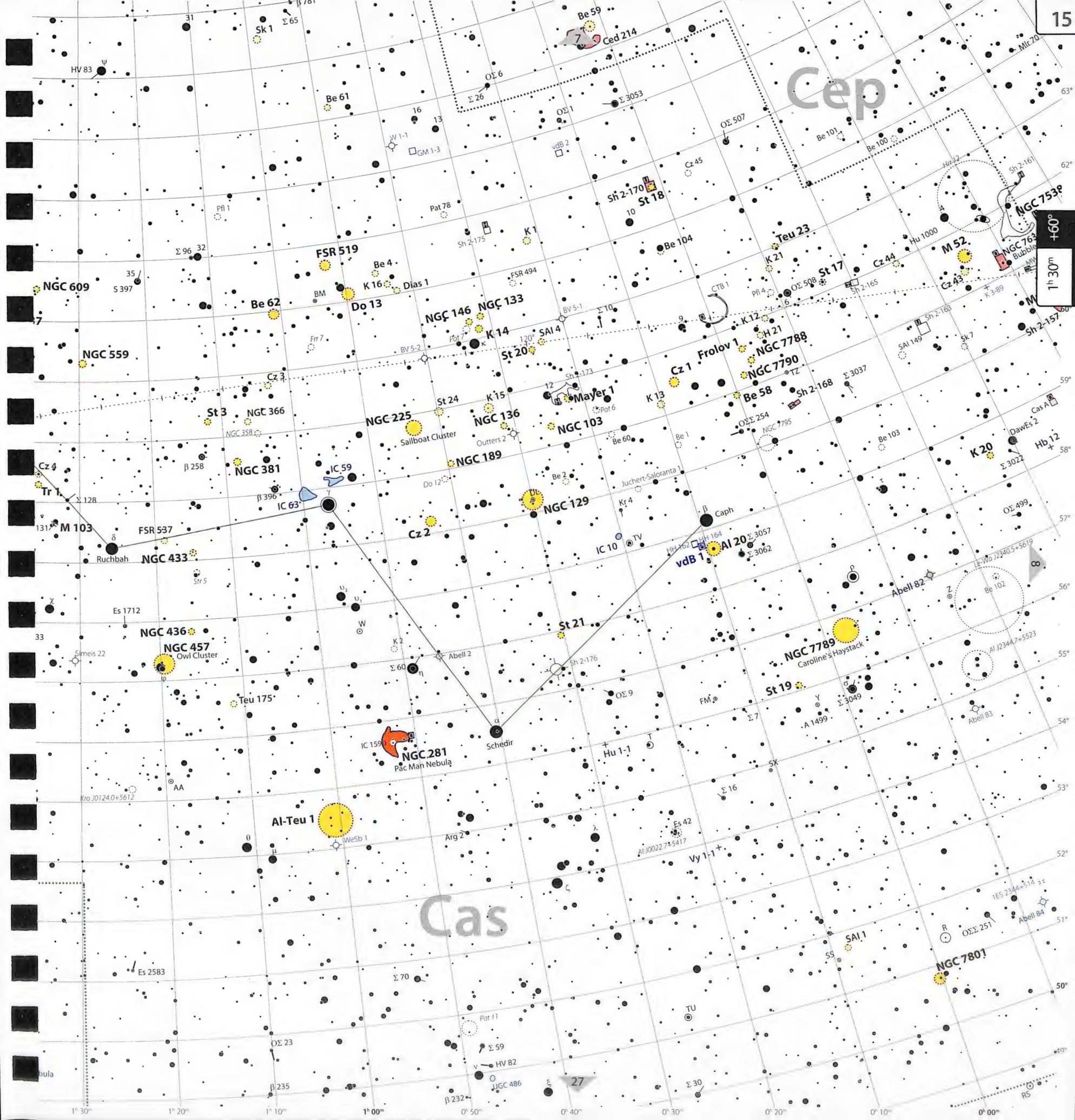








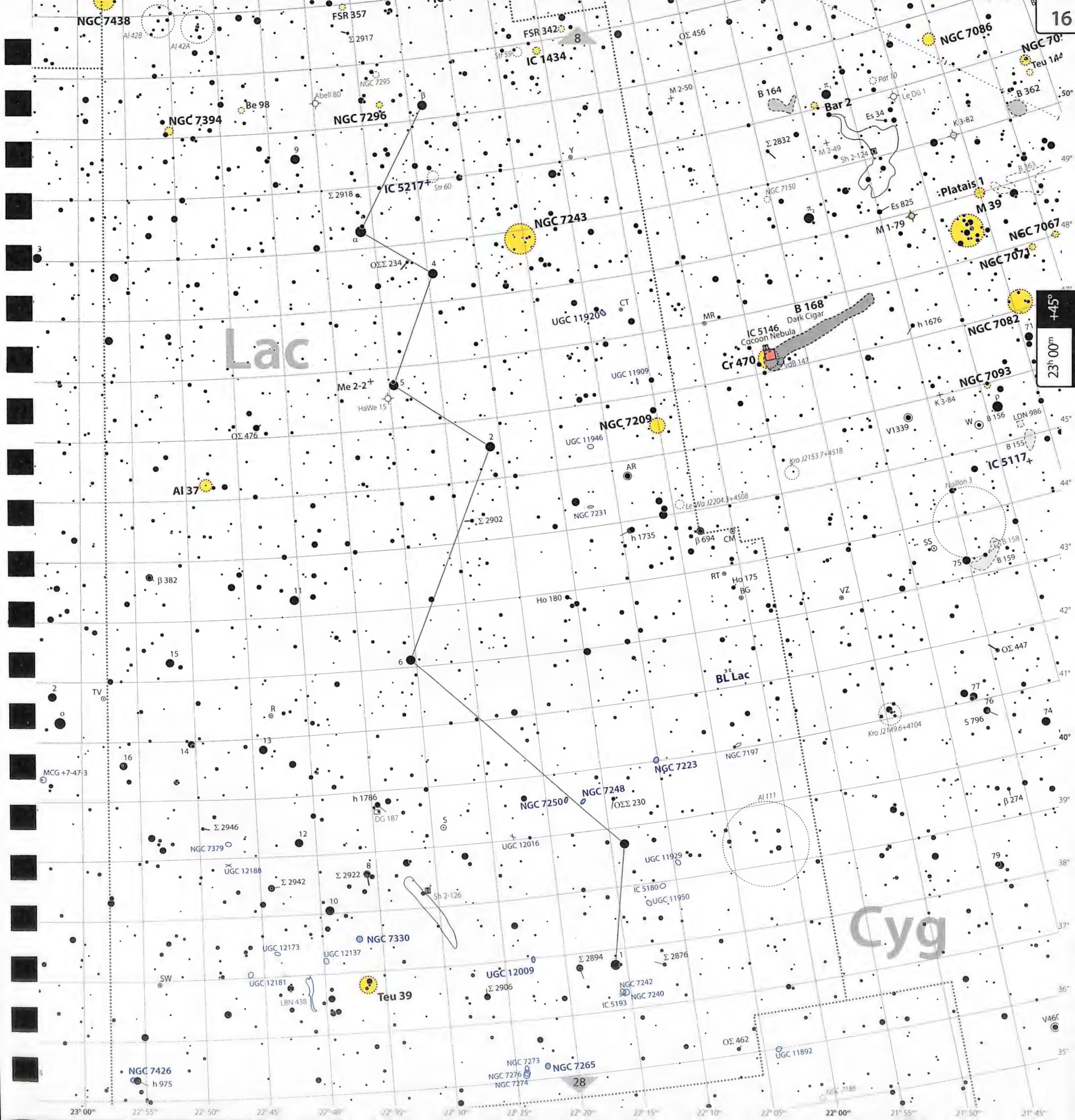




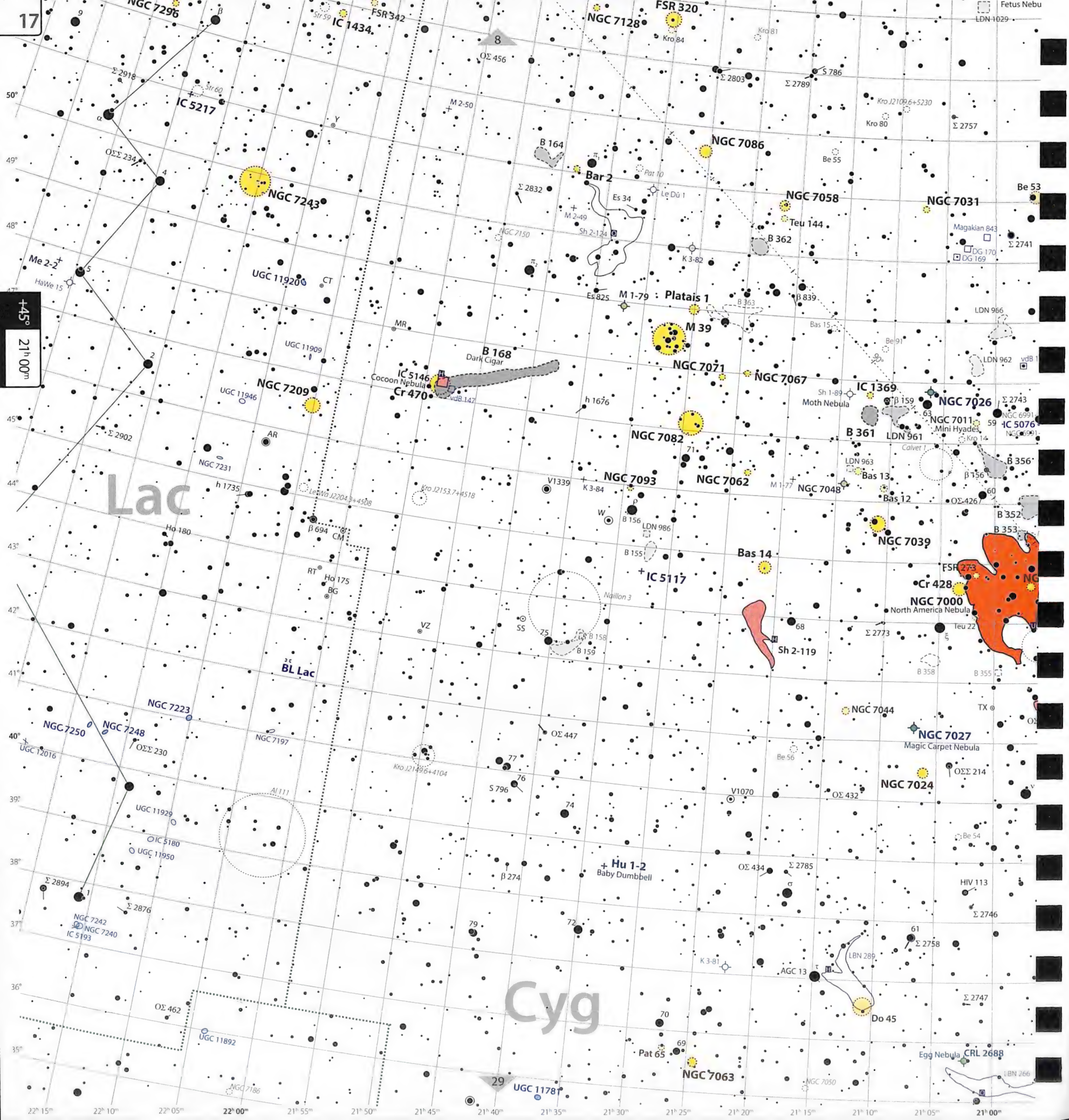




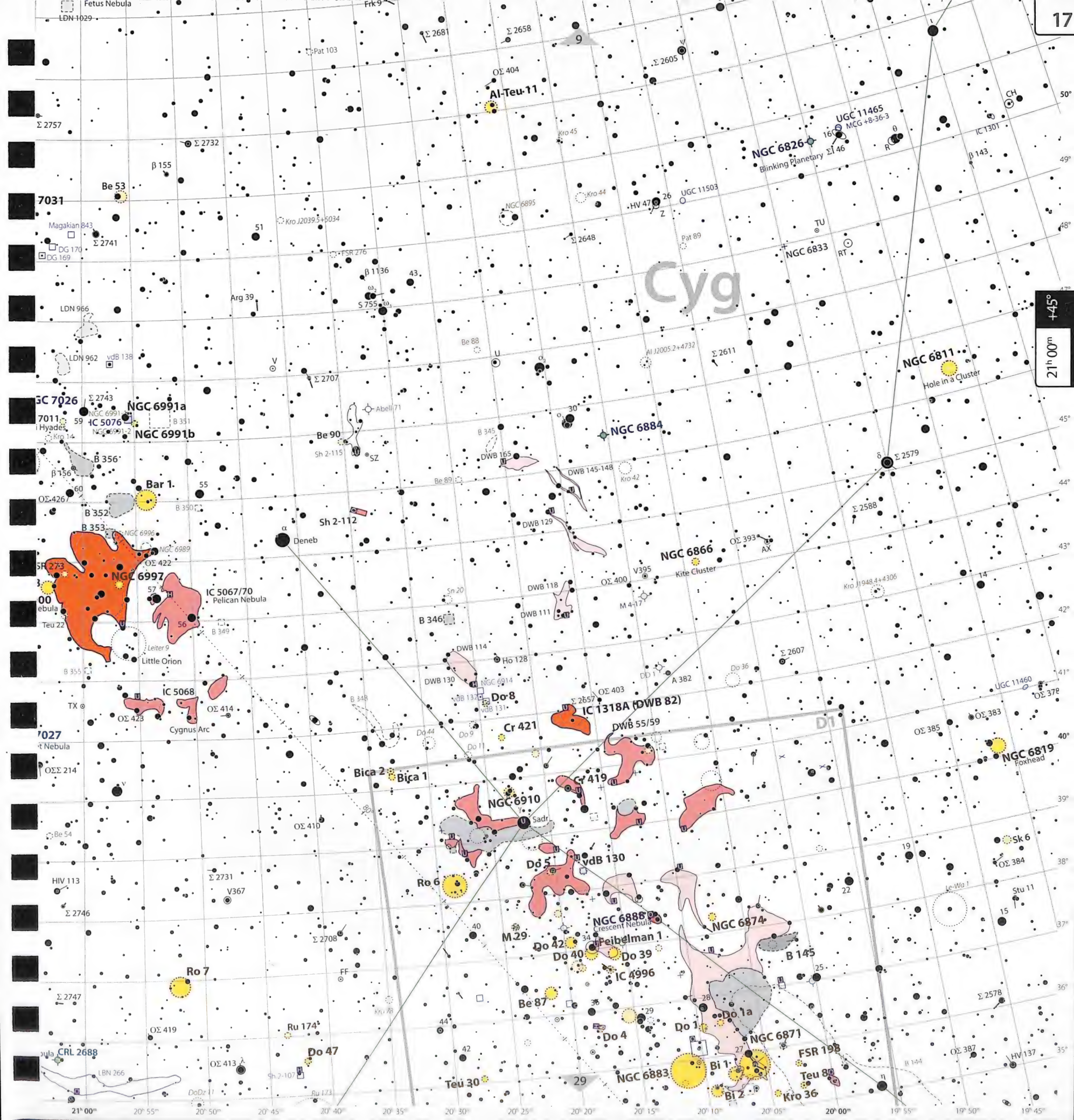












Cyg

Al-Tau-11

NGC 6826  
Blinking Planetary

UGC 11465  
MCG +8-36-3

NGC 6811  
Hole in a Cluster

NGC 6884

NGC 6866  
Kite Cluster

IC 1318A (DWB 82)

NGC 6819  
Foxhead

NGC 6885  
Crescent Nebula

NGC 6874

NGC 6883

FSR 198

NGC 6991a  
NGC 6991b

NGC 6997

IC 5067/70  
Pelican Nebula

IC 5068  
Cygnus Arc

NGC 6910

IC 4996

NGC 6871

7031

7026

7011

7027

7027

CRL 2688

Do 47

Teu 30

Do 4

Do 1

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HV 137

Do 11

Do 1

Do 1

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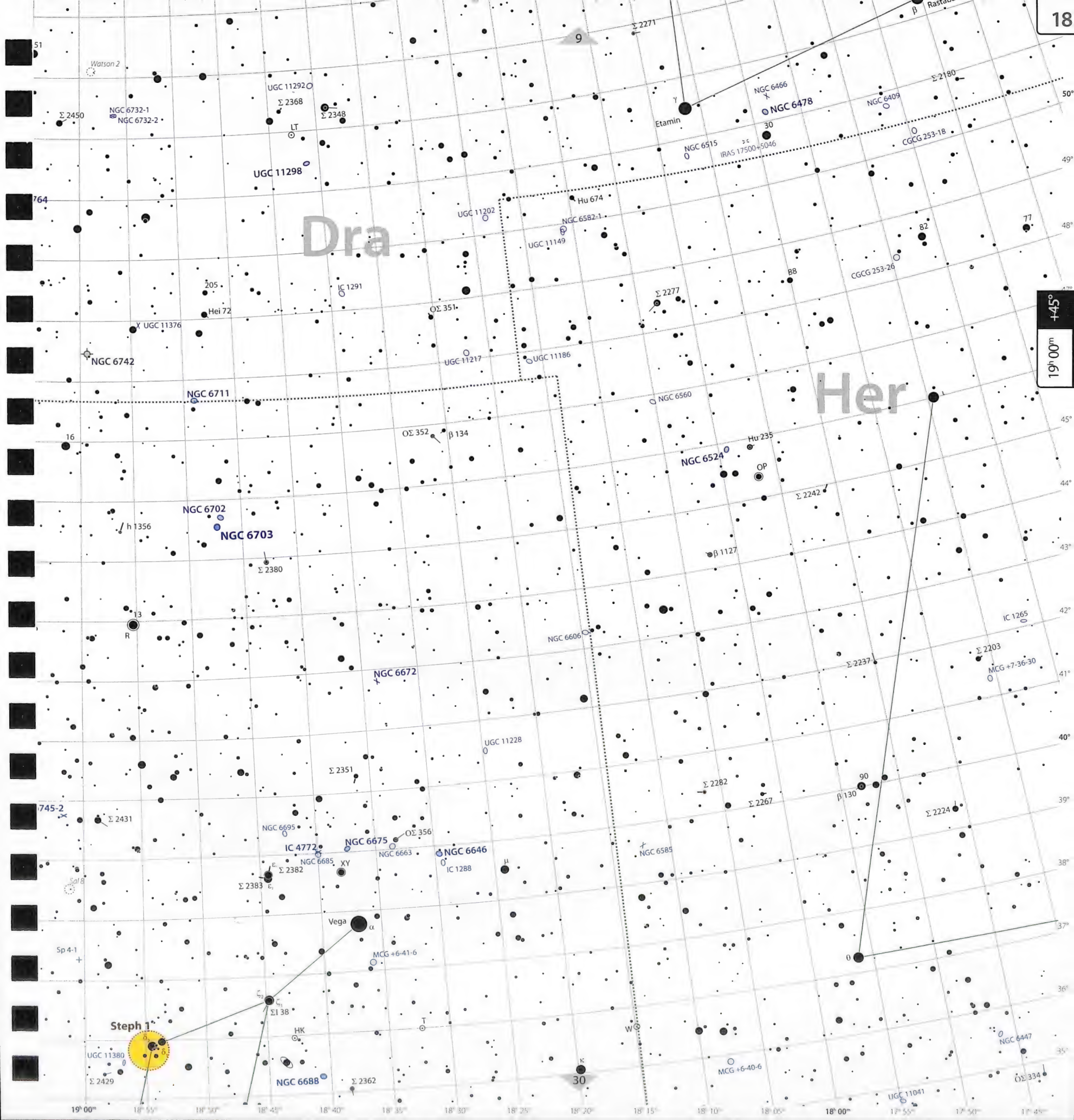
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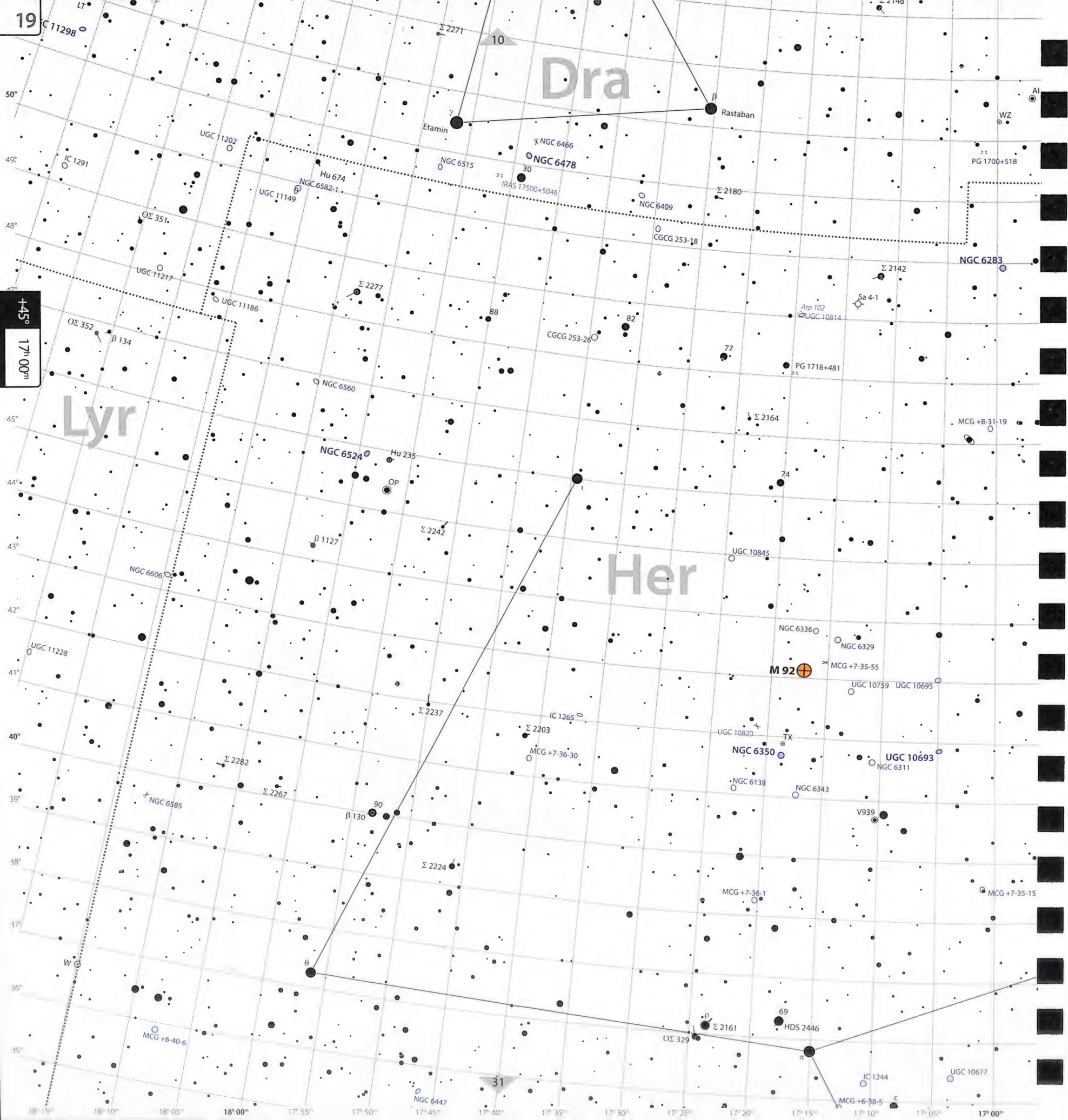








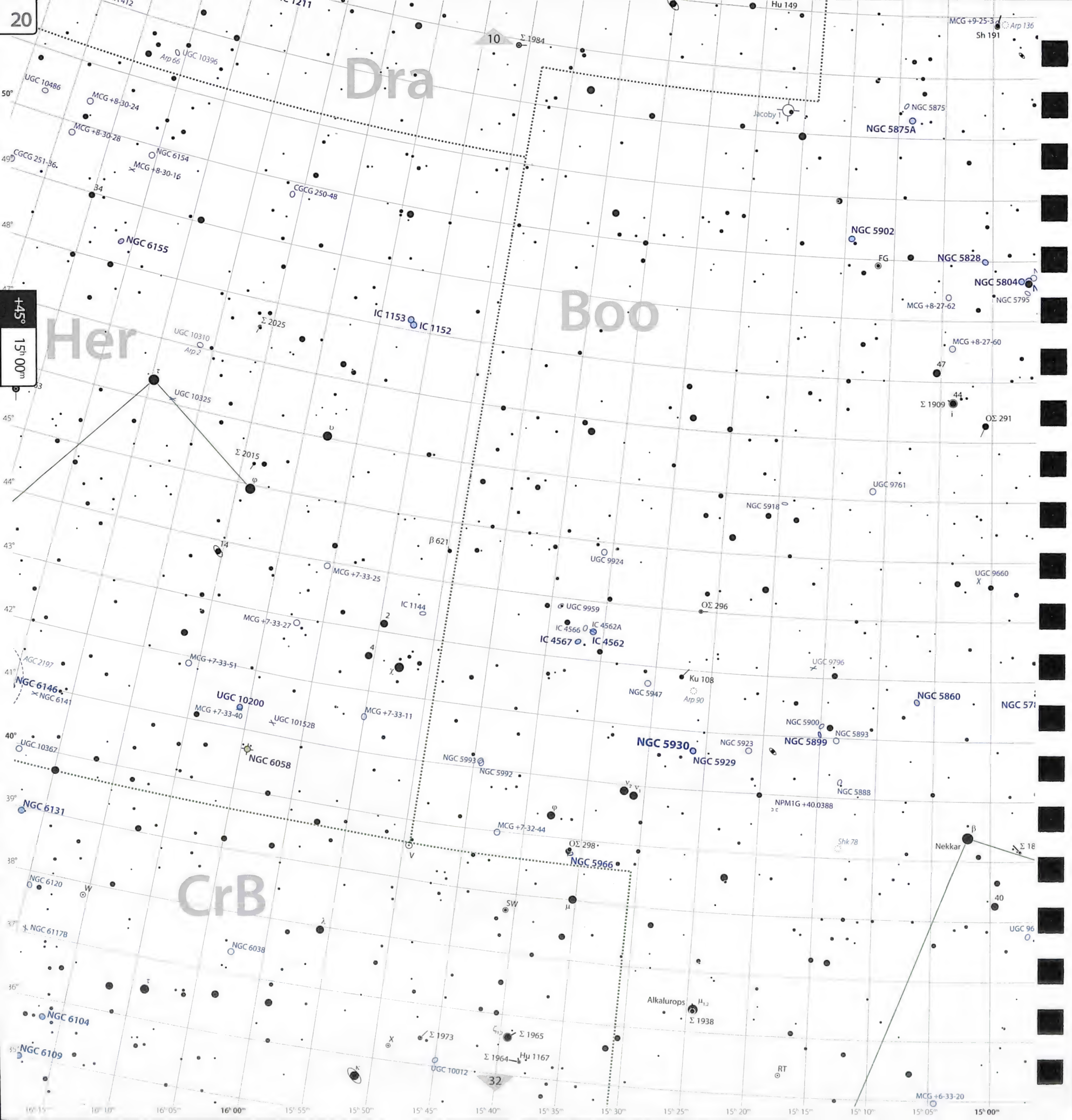




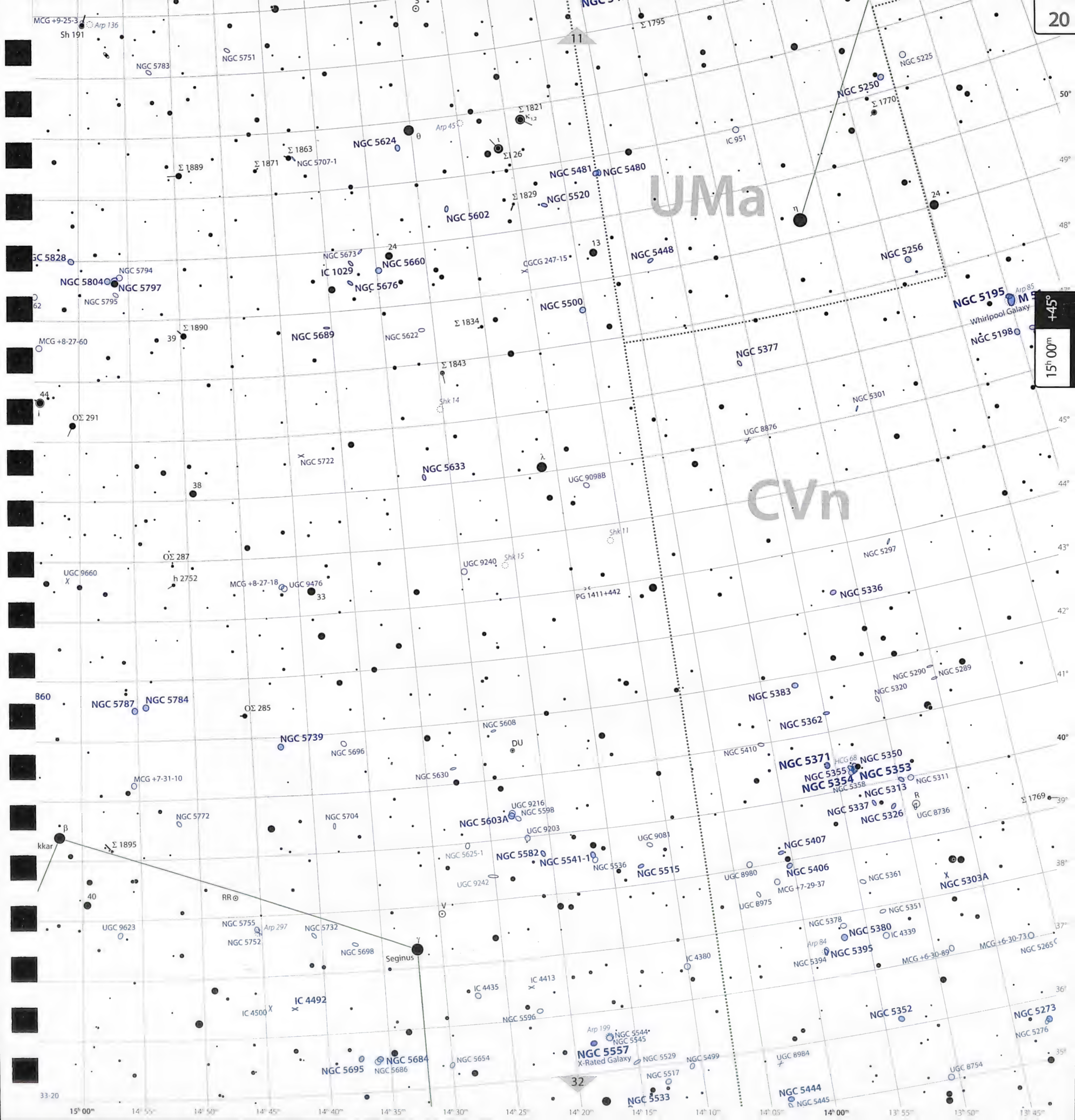




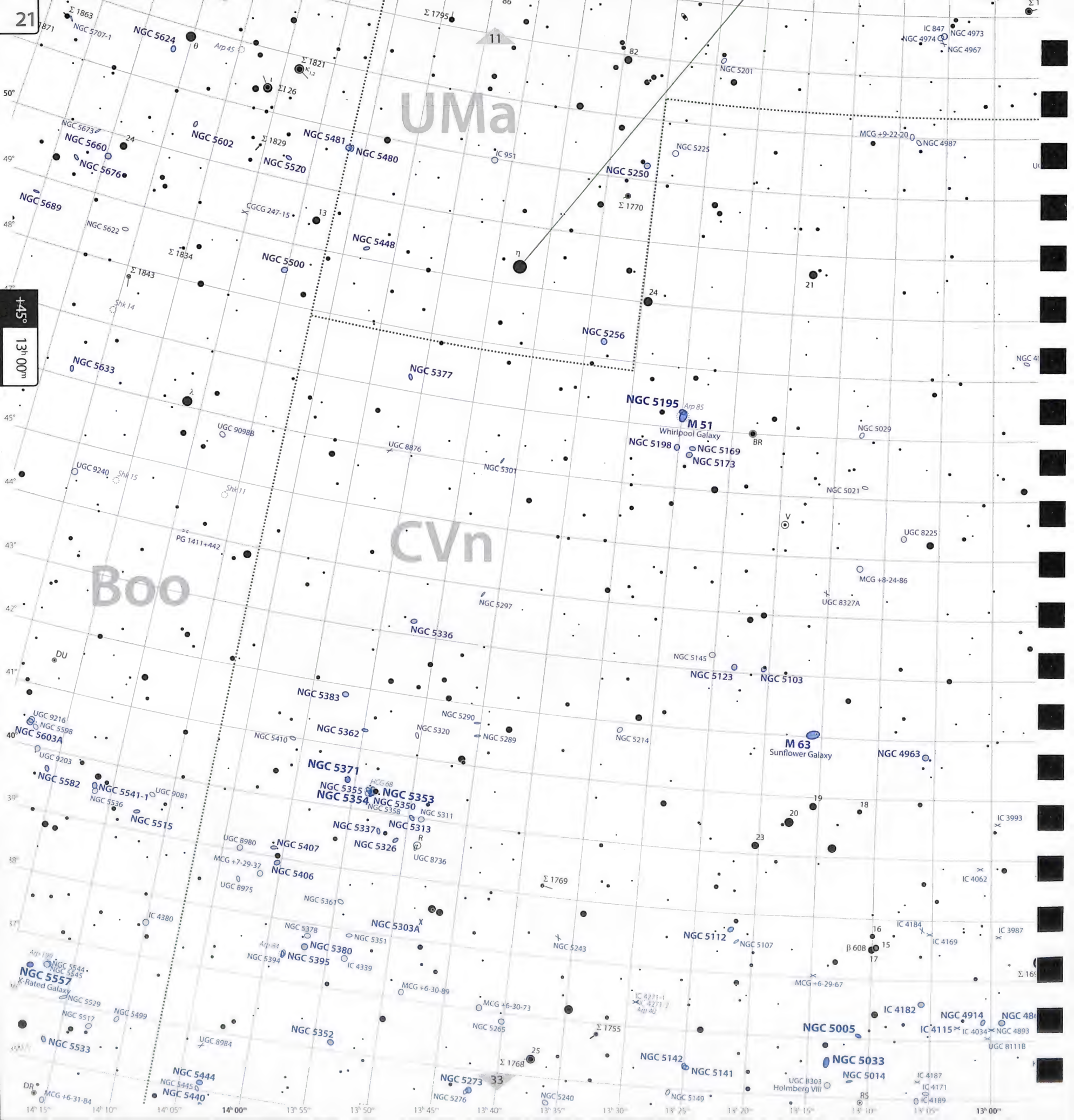




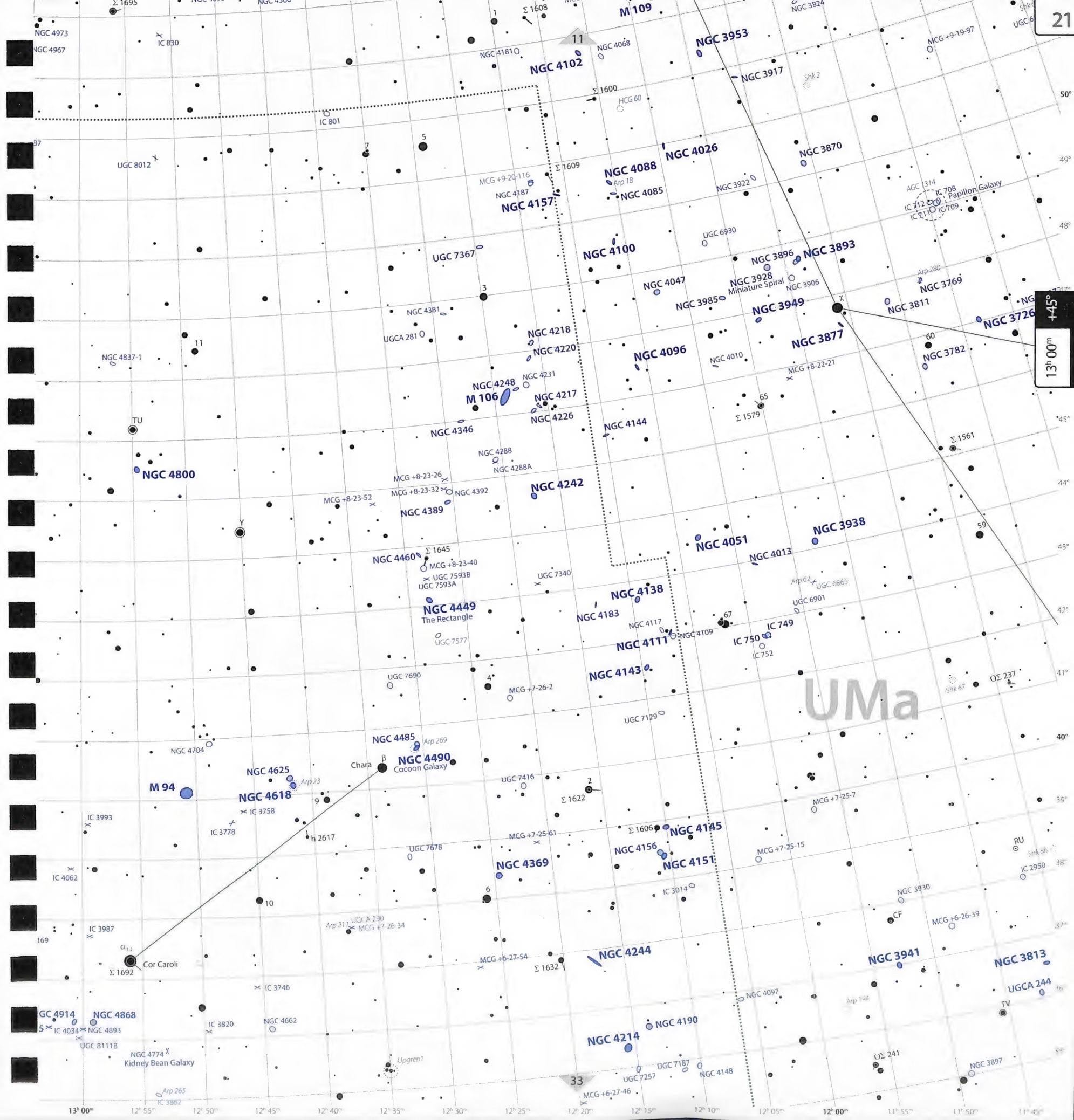








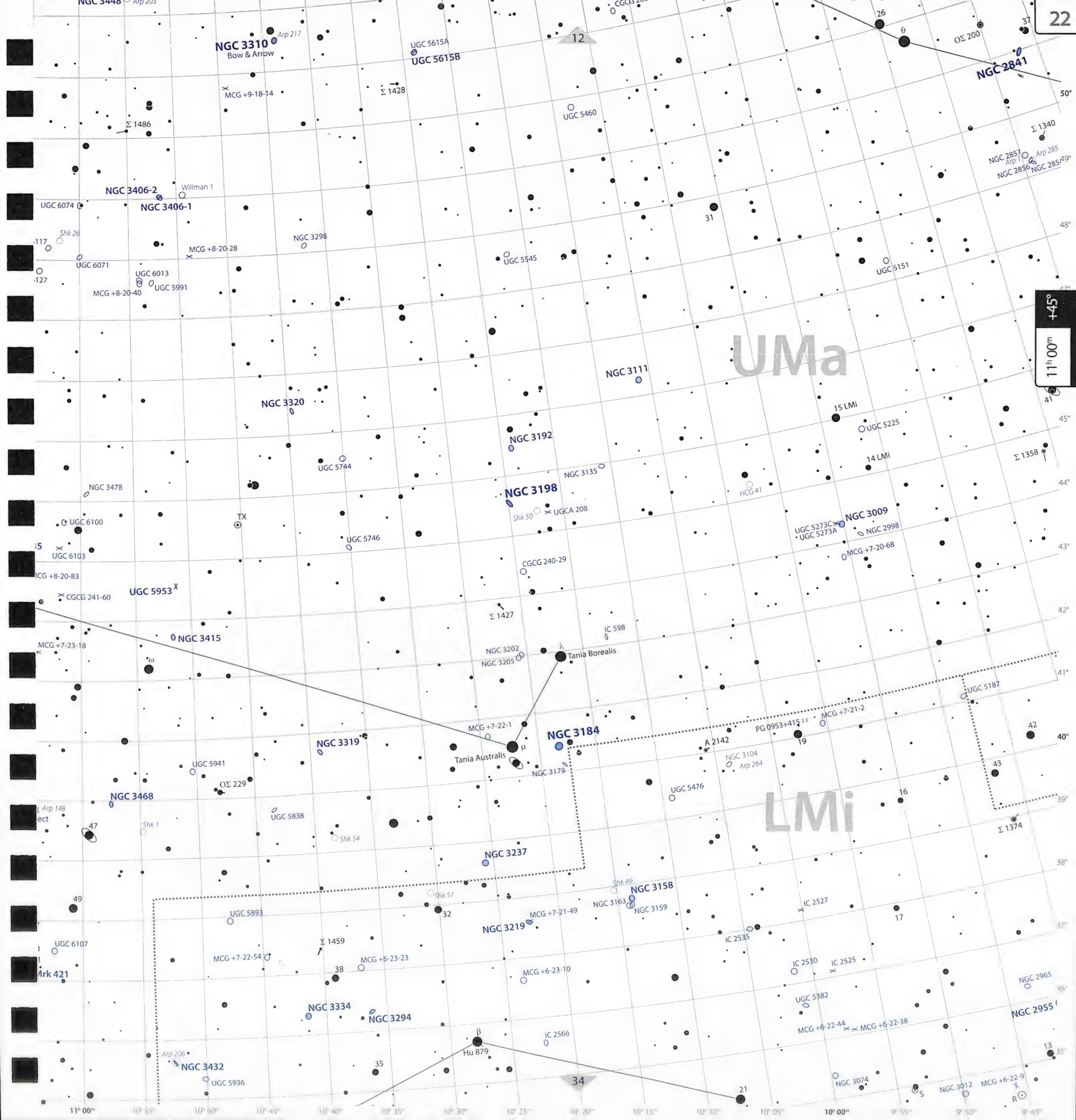








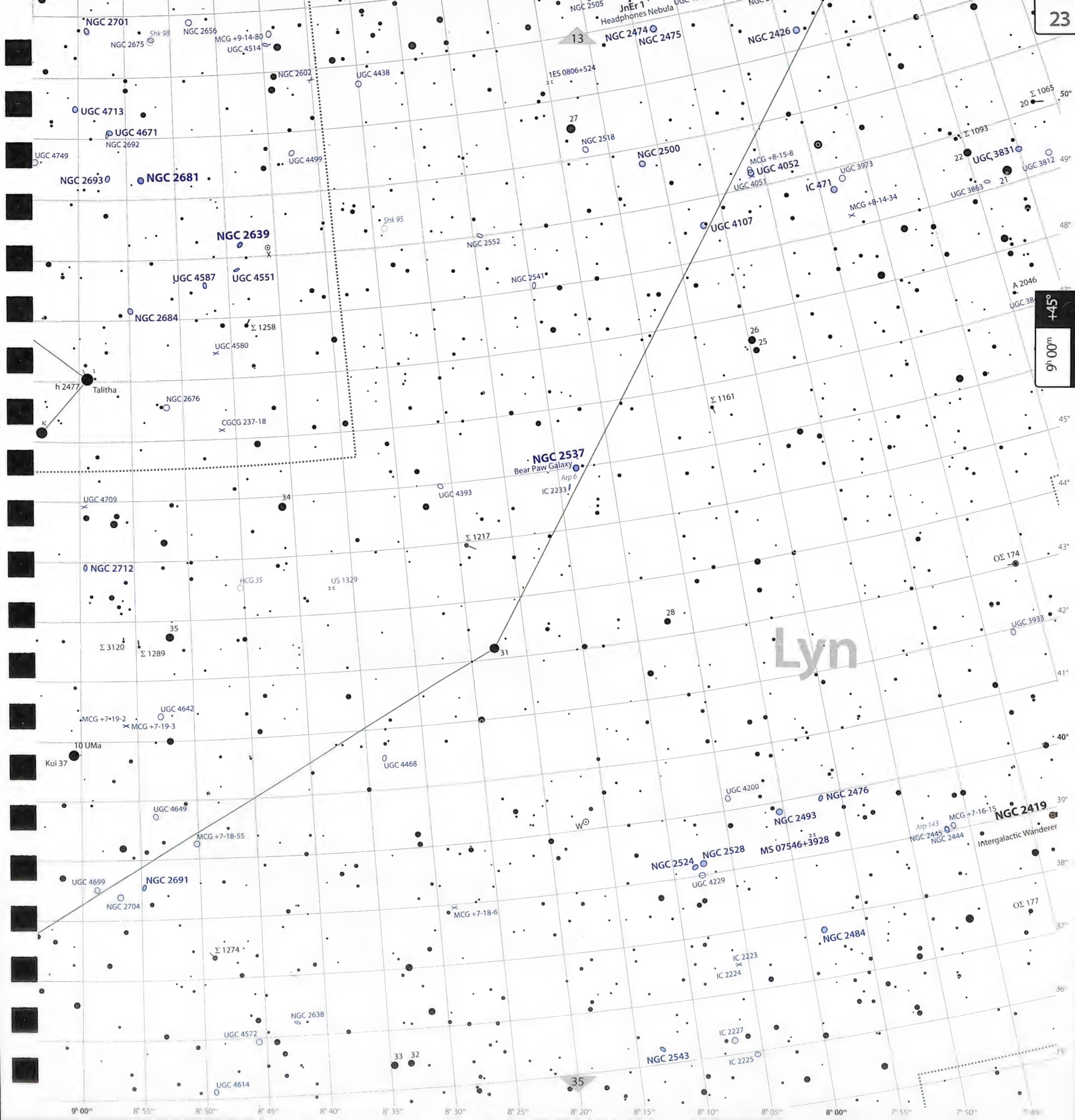








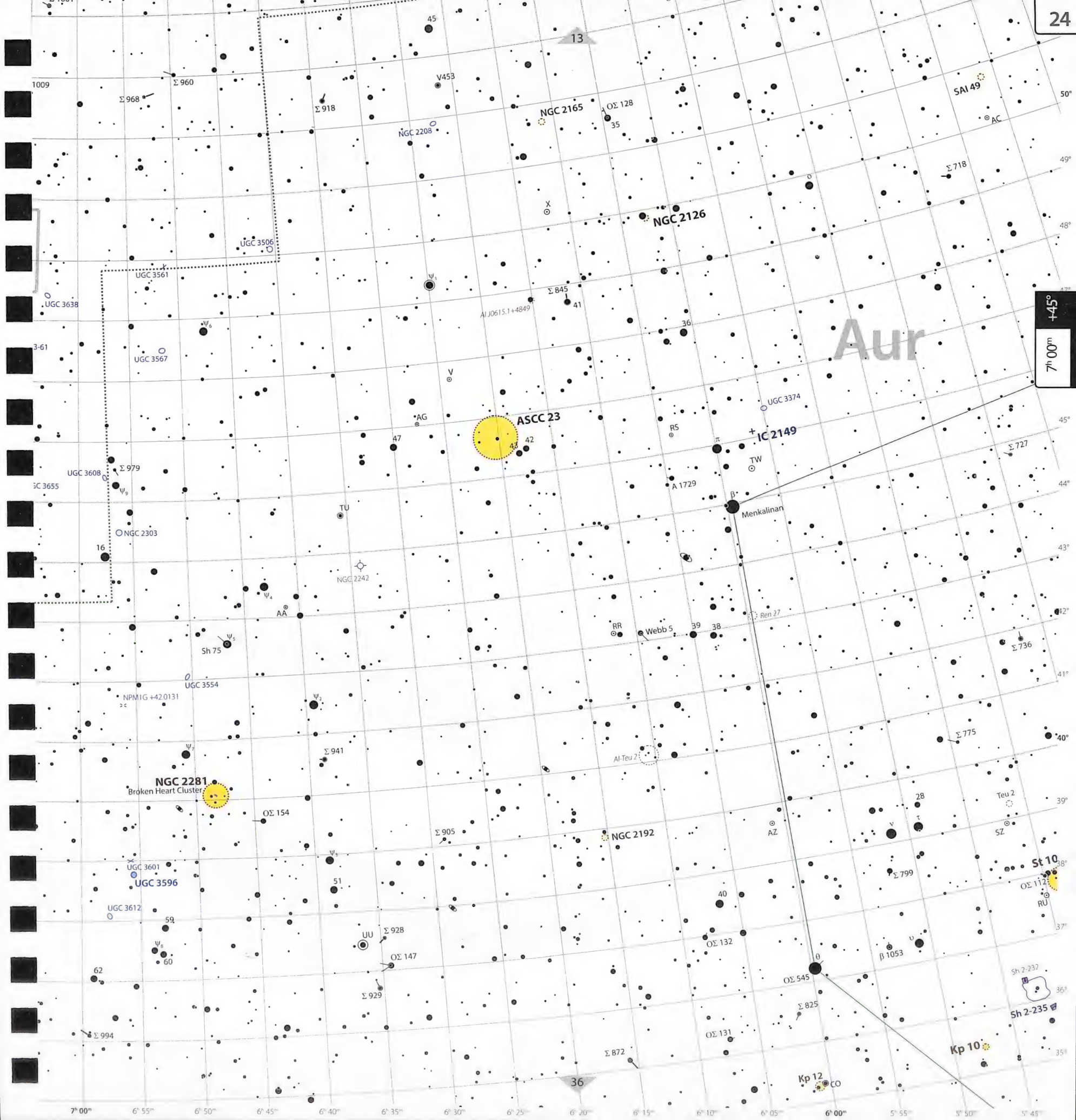




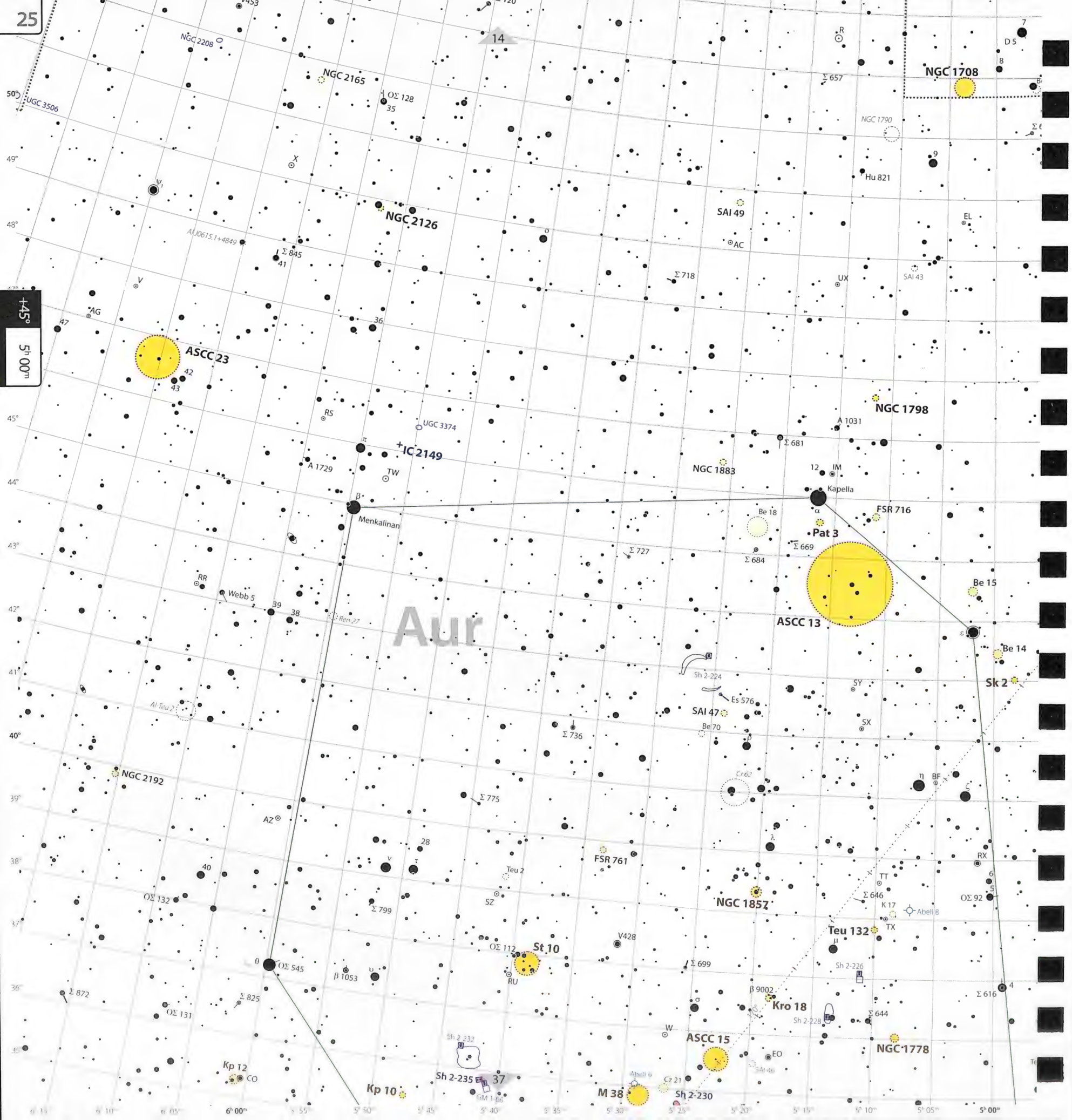




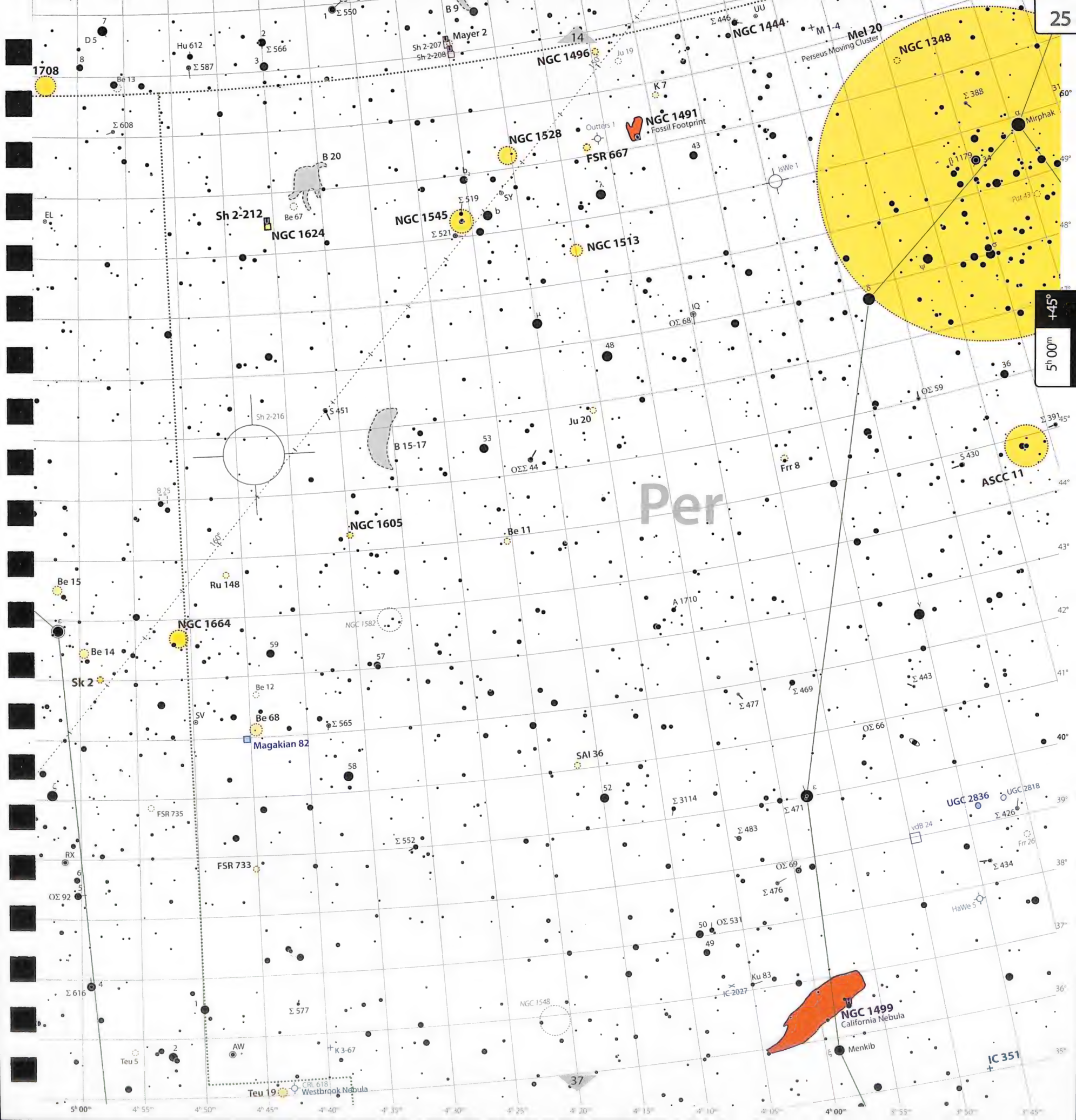




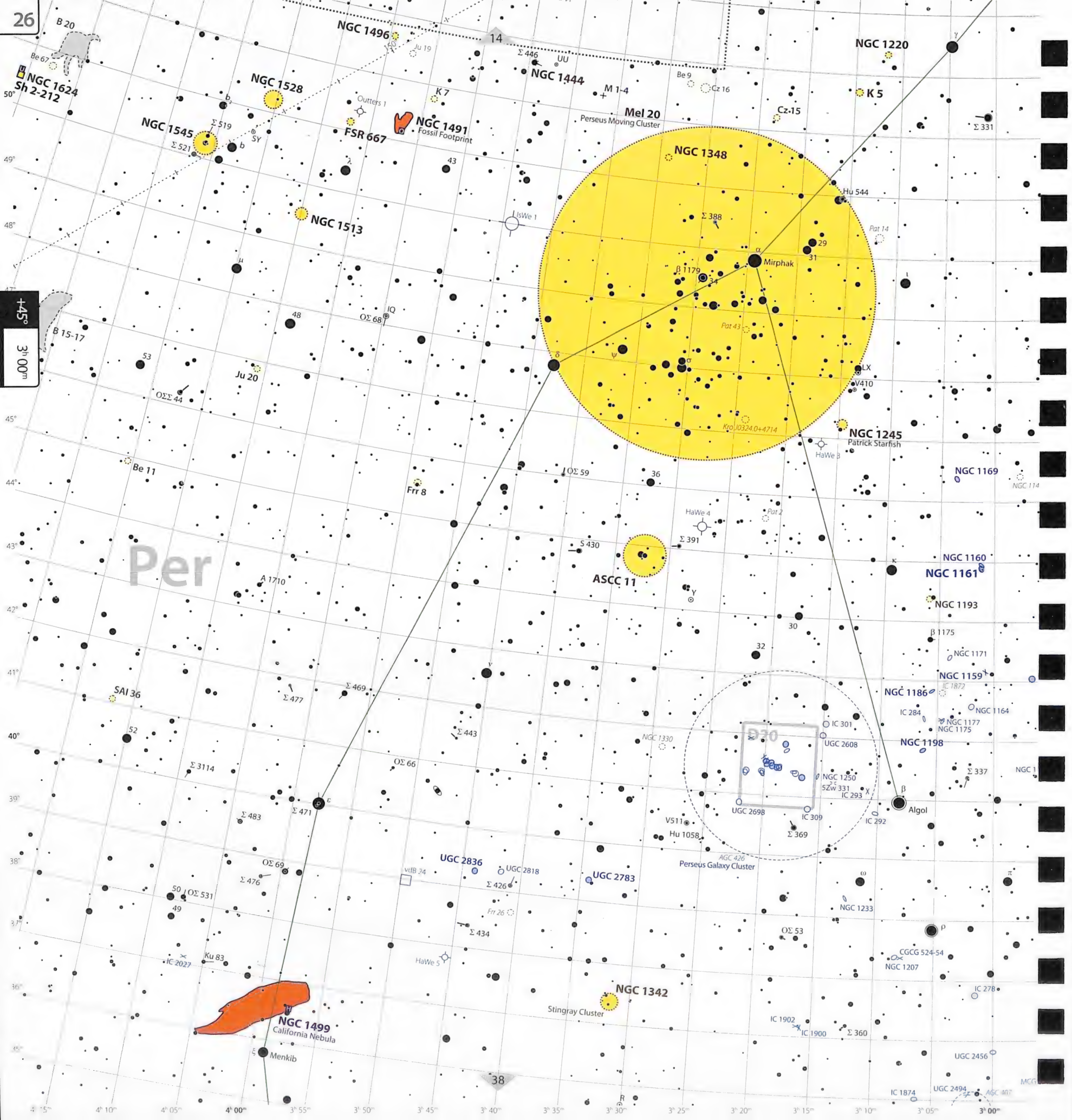




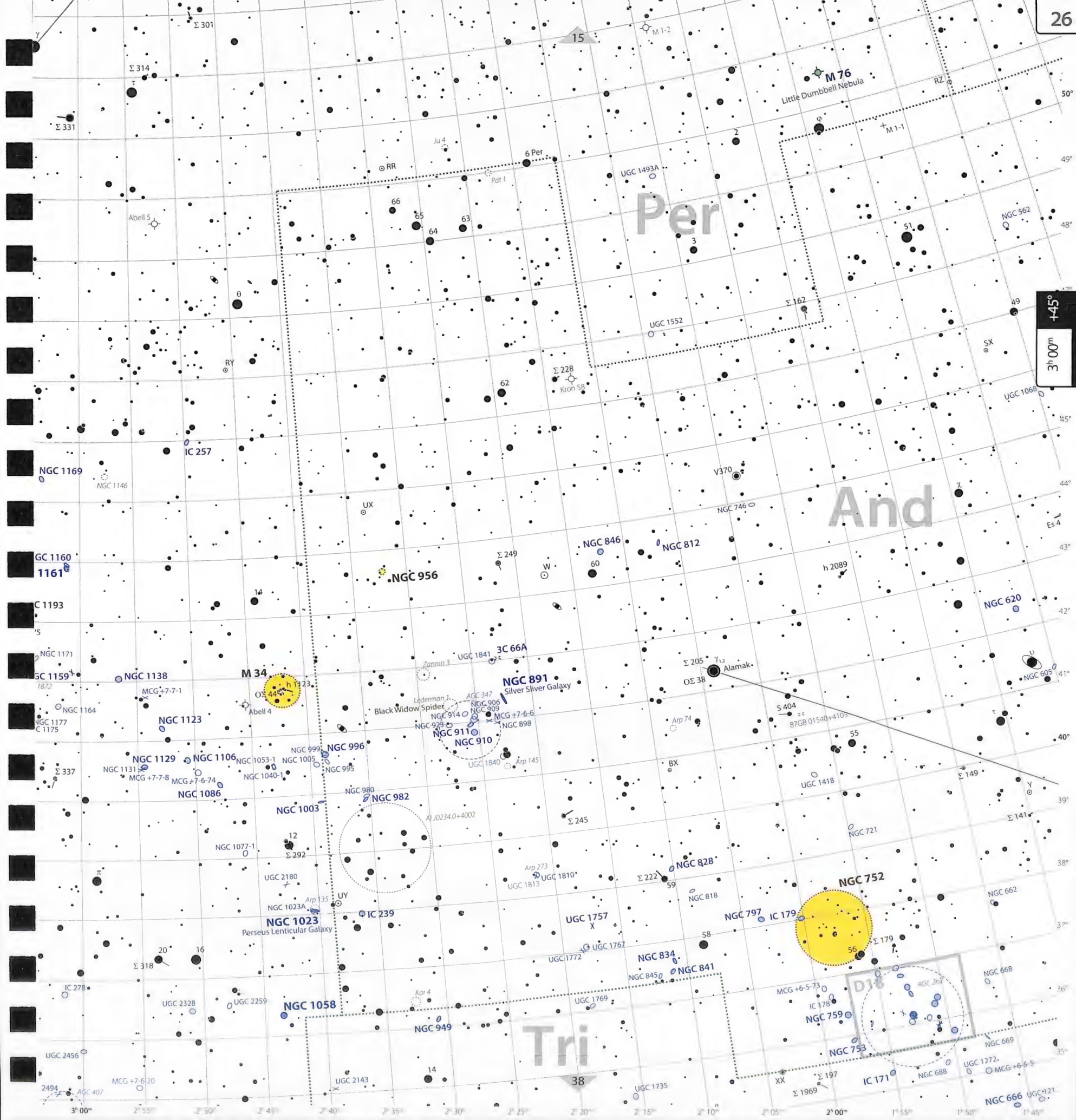








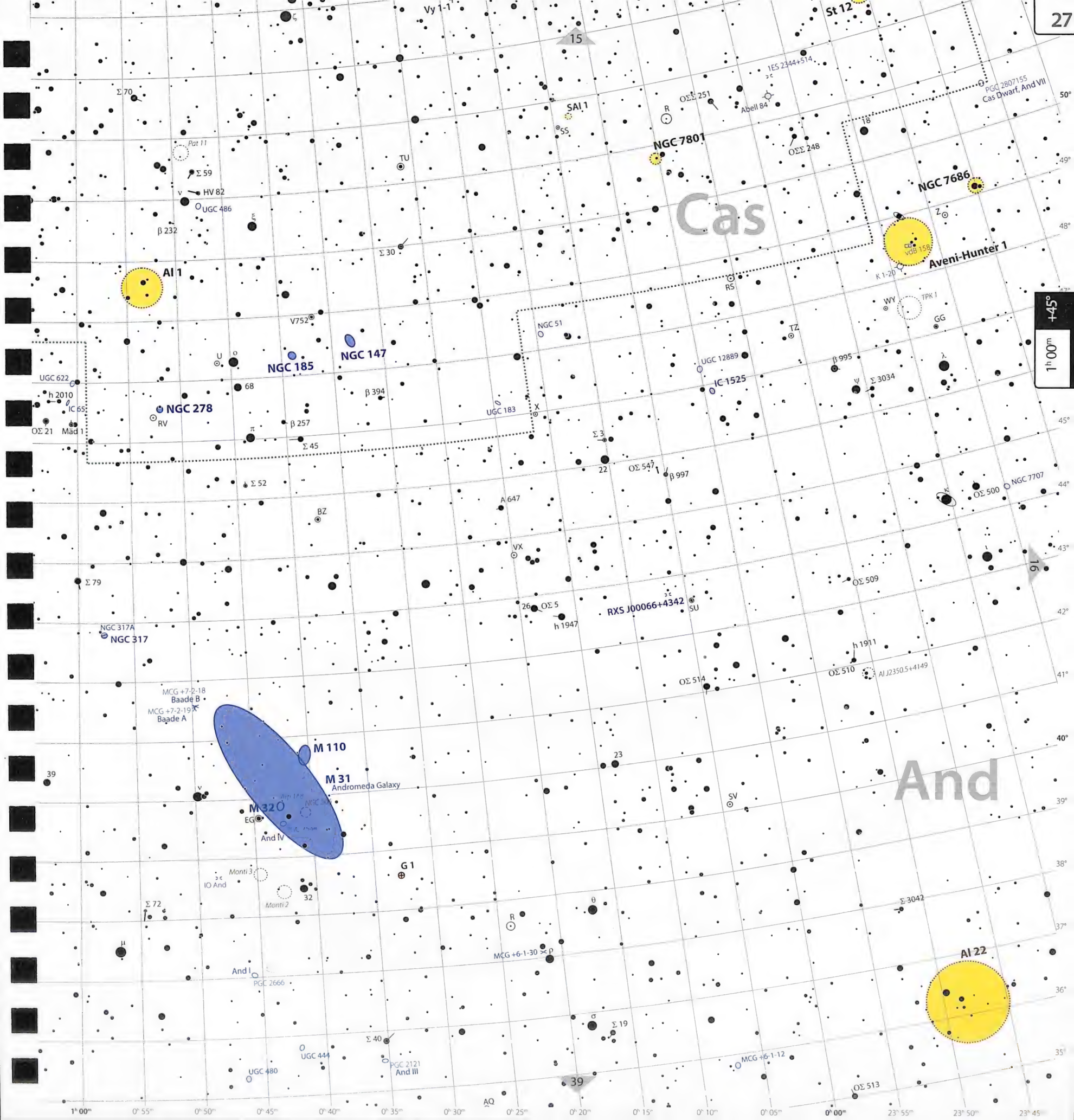




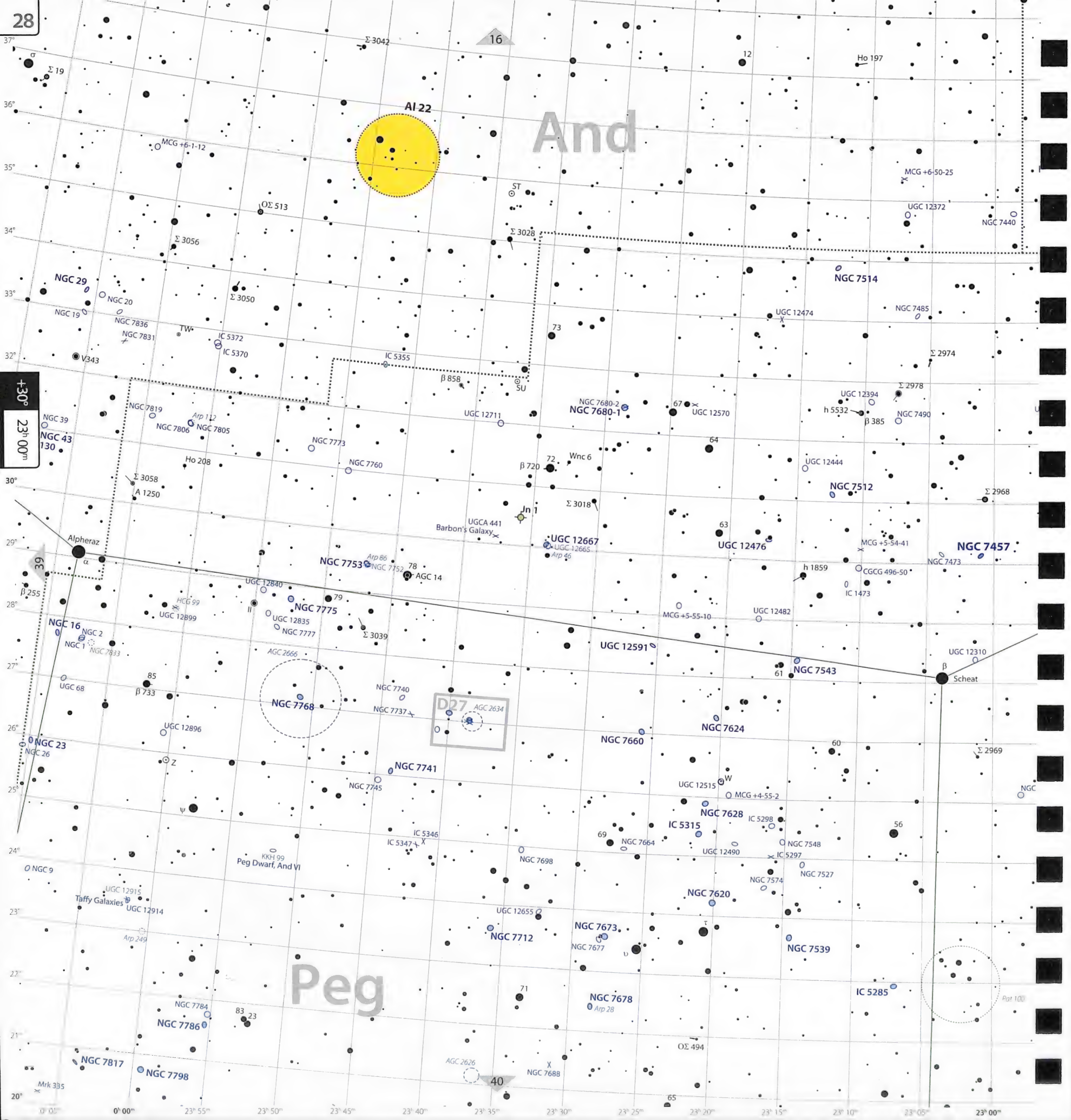




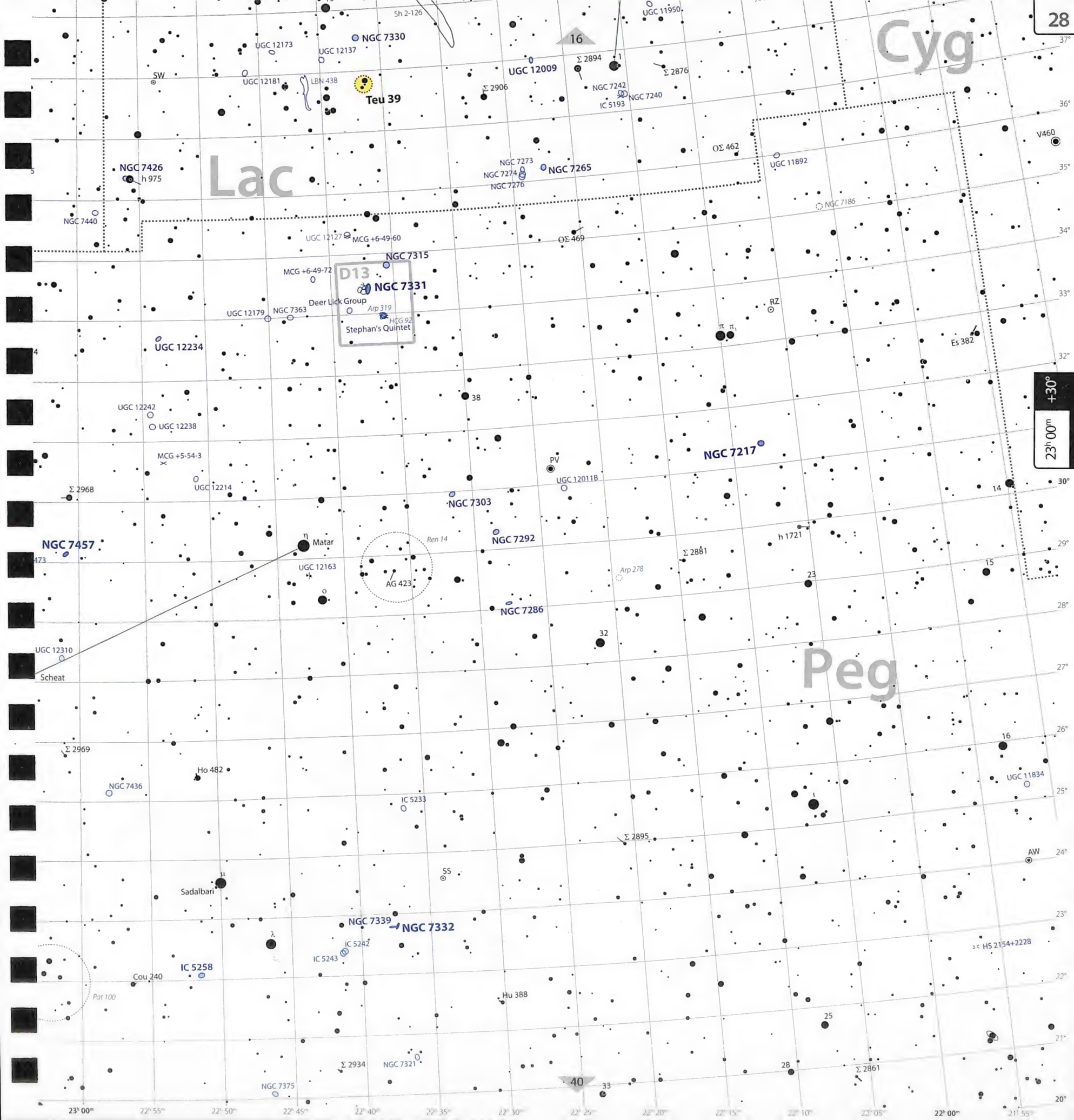








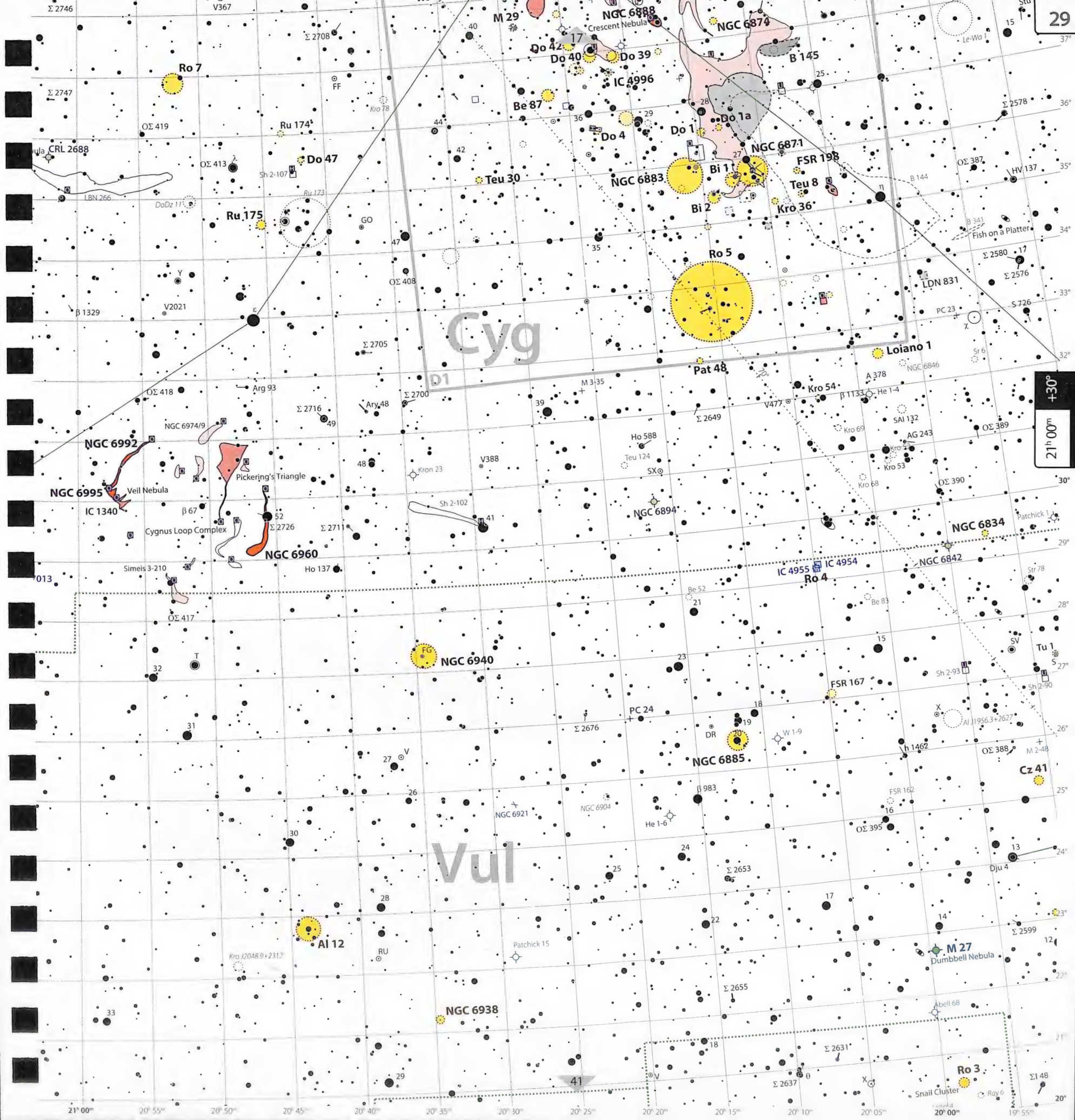




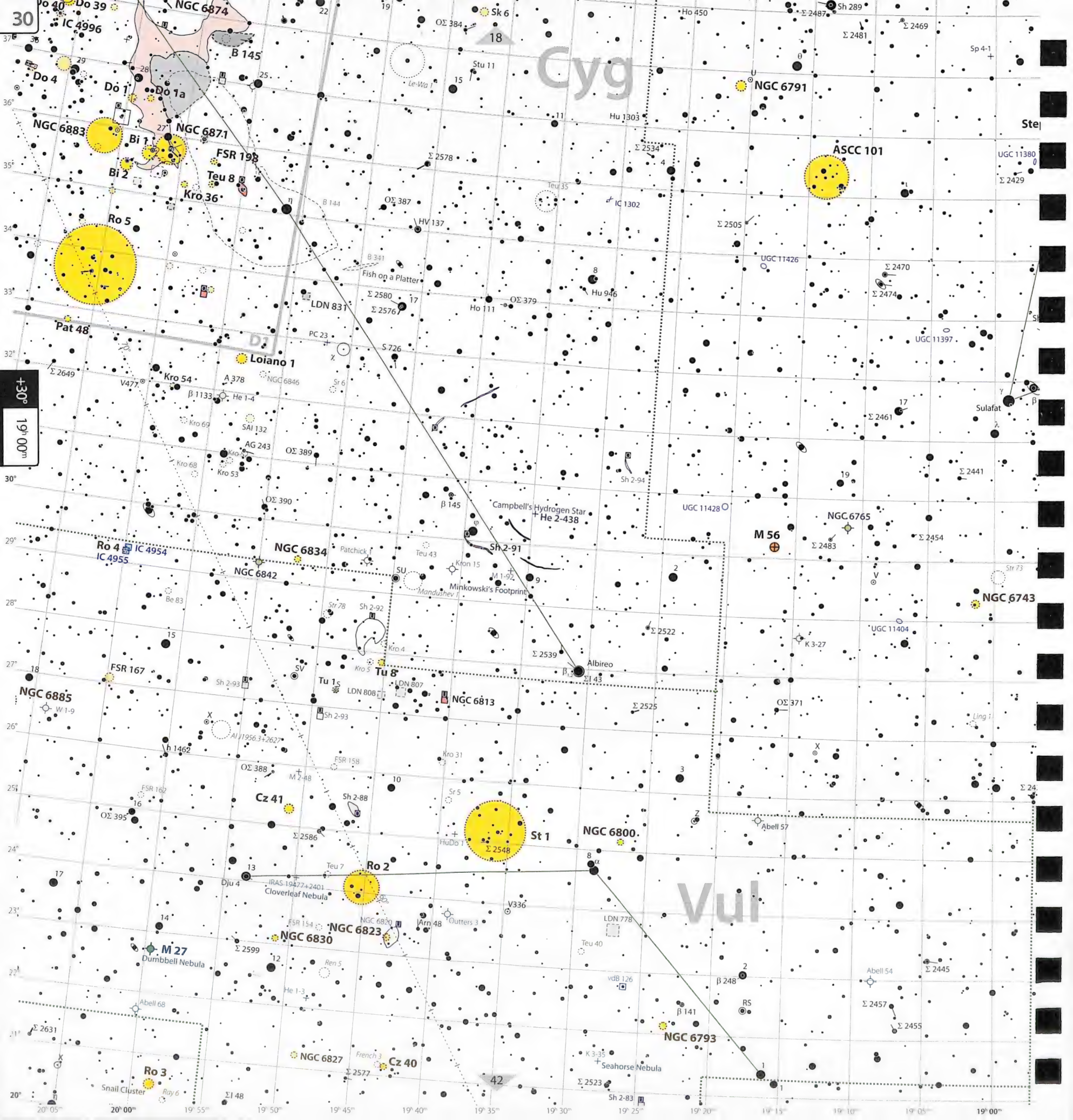




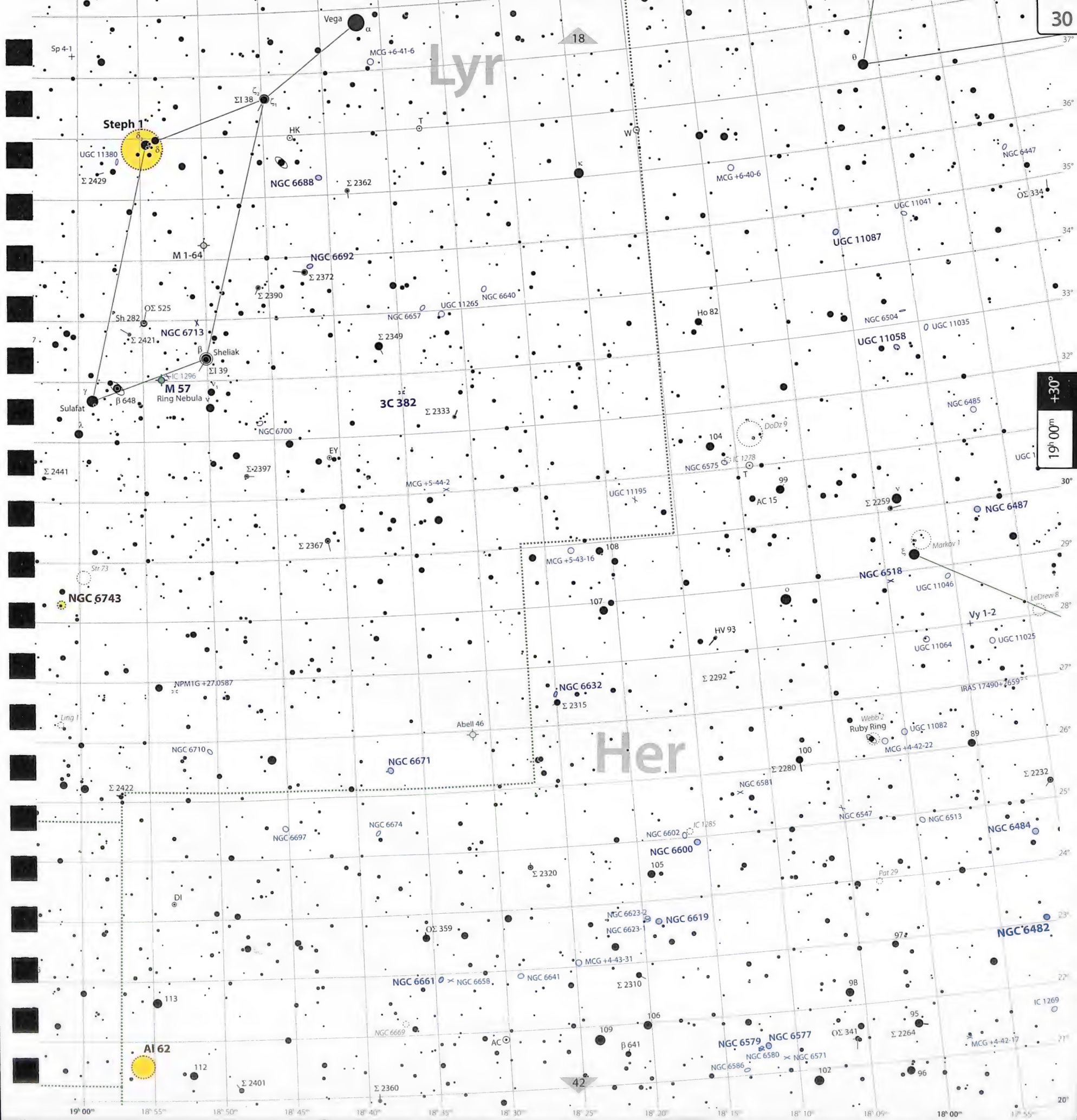








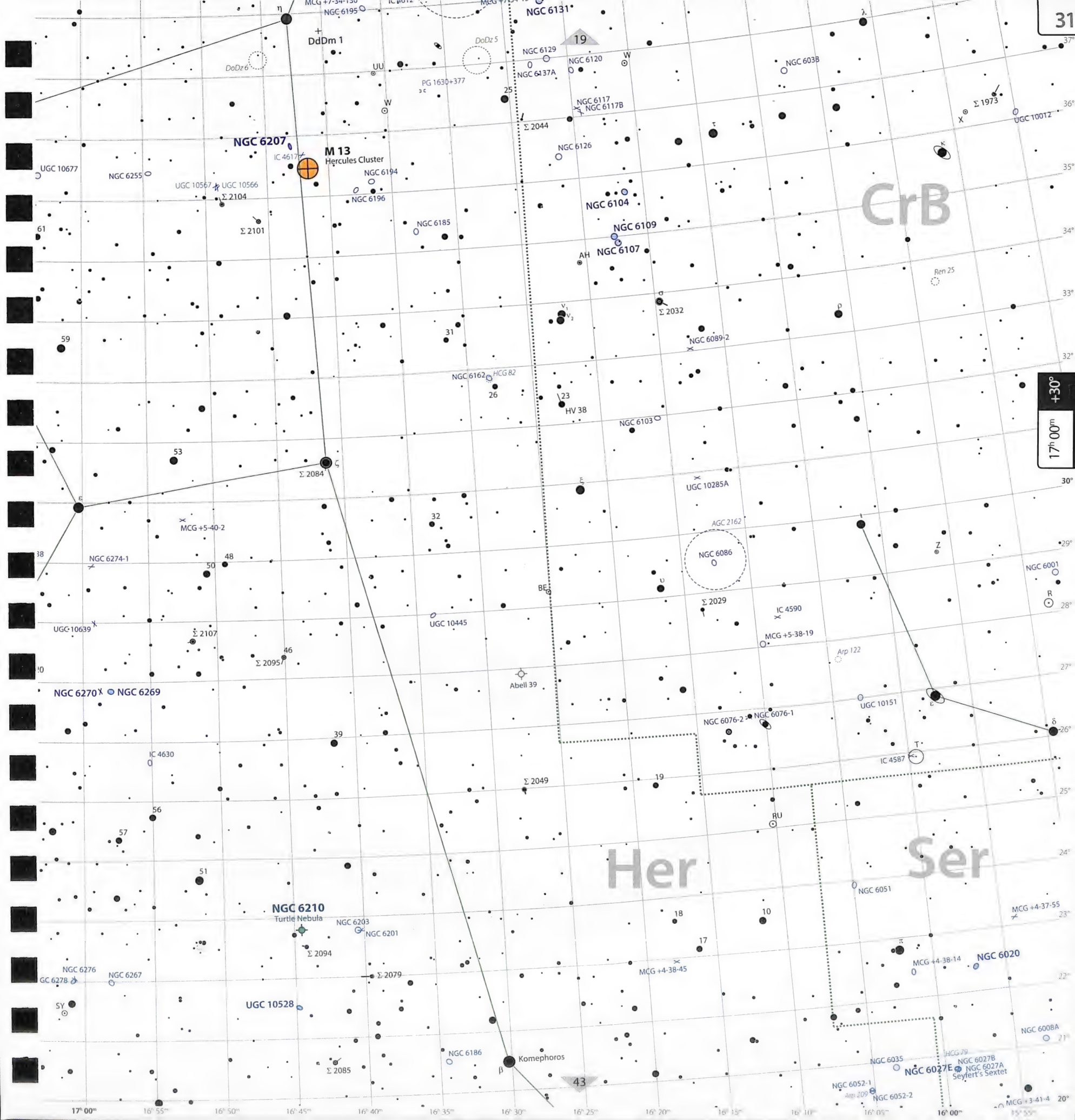




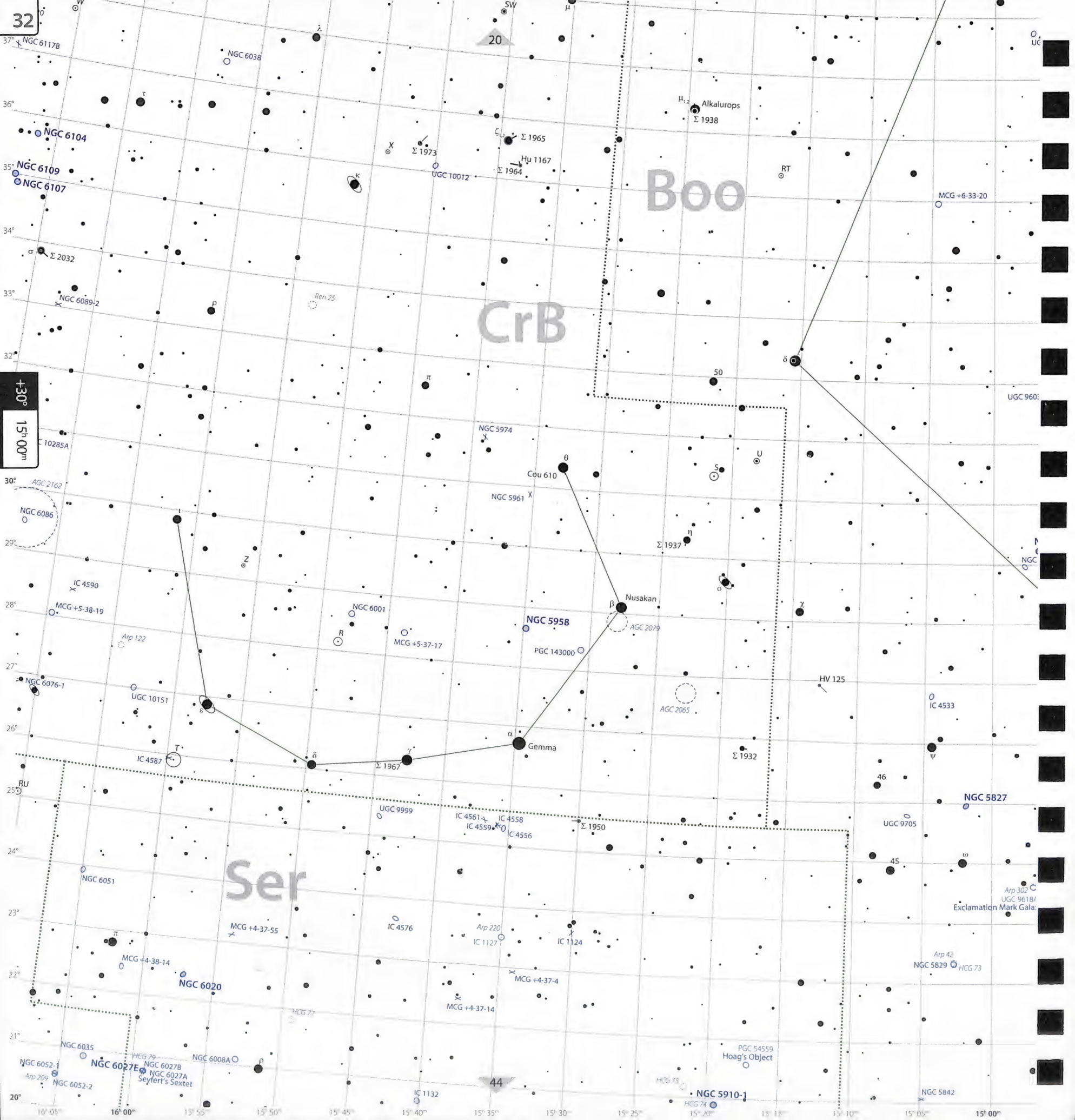












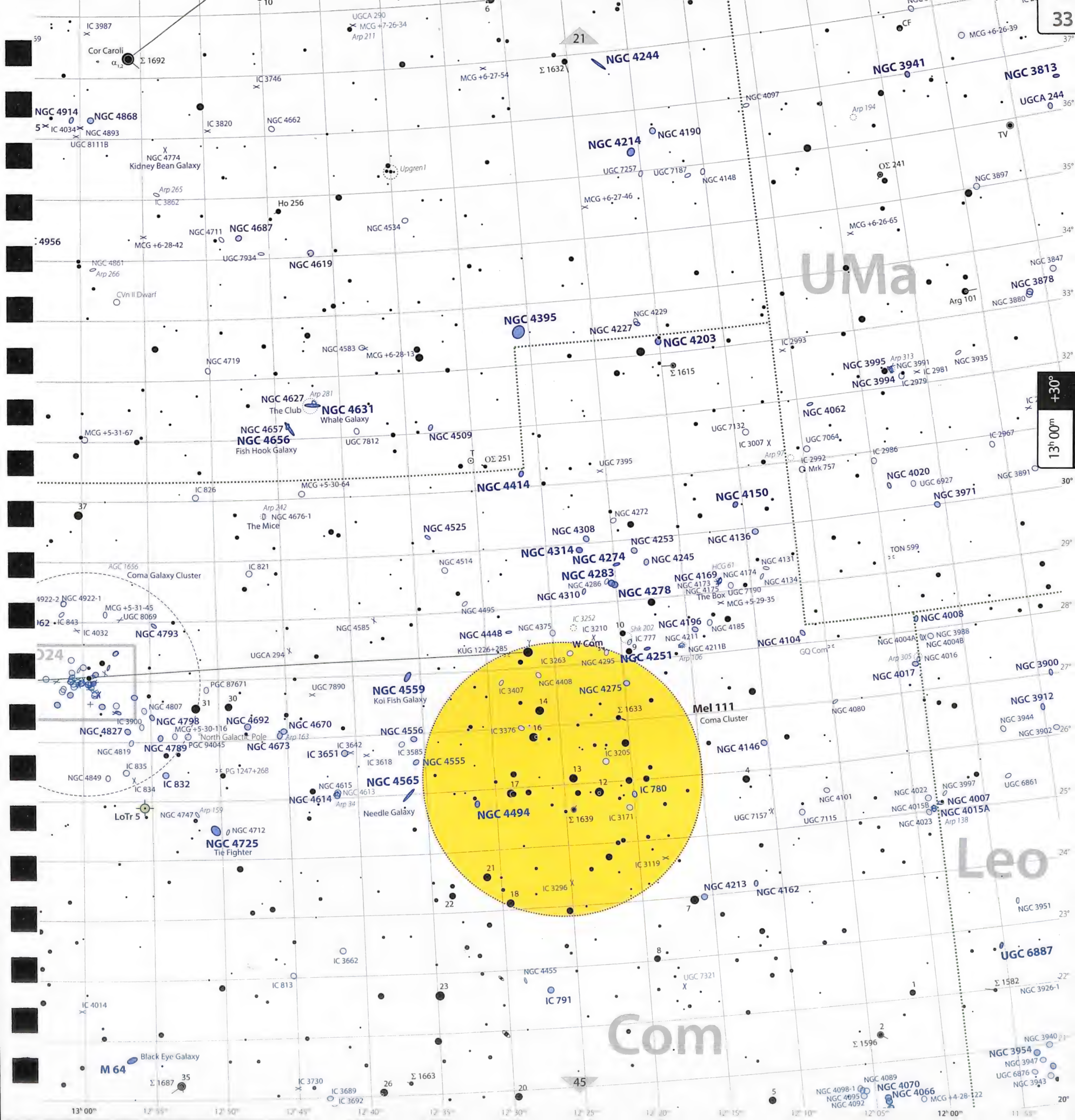








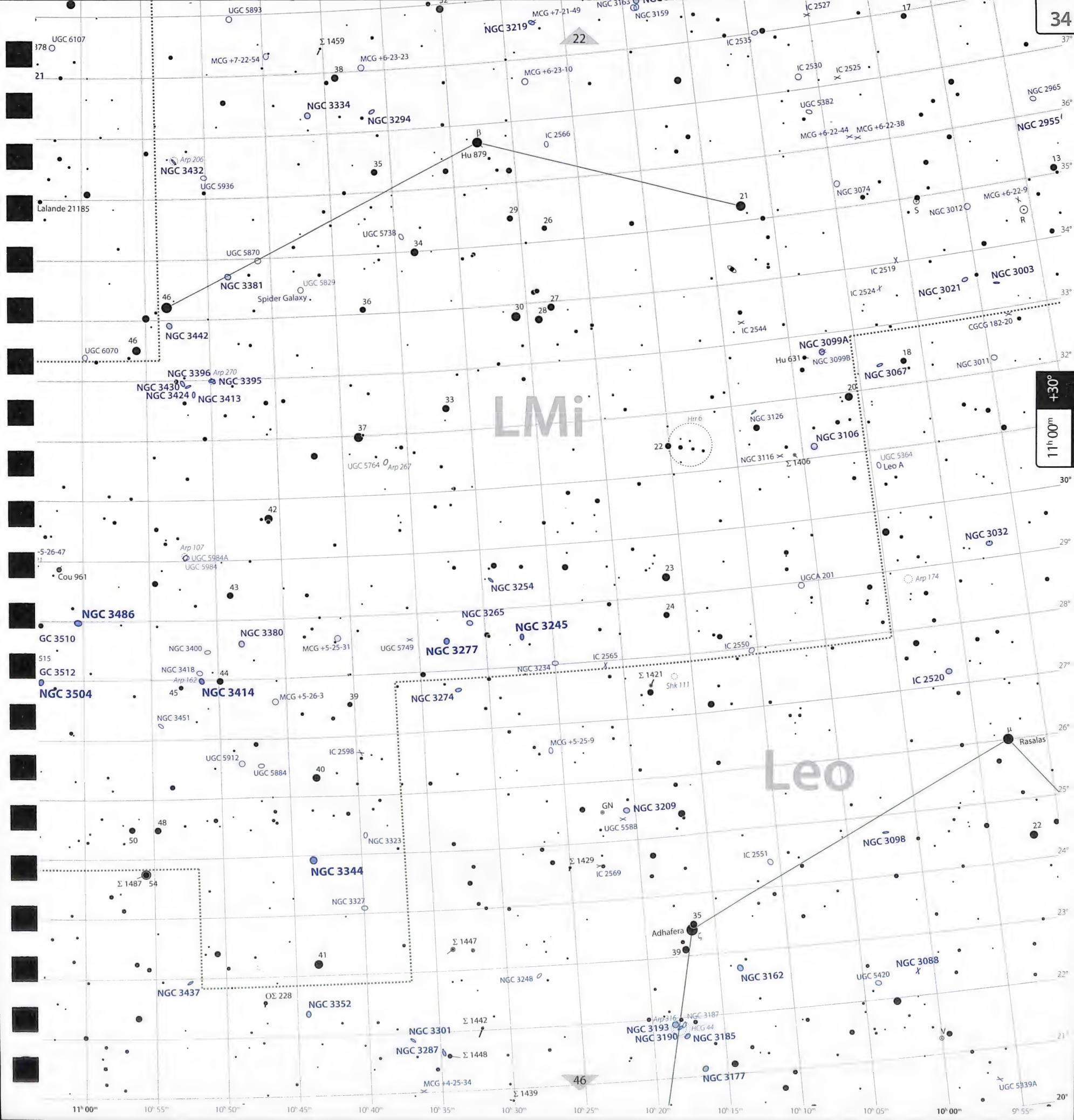






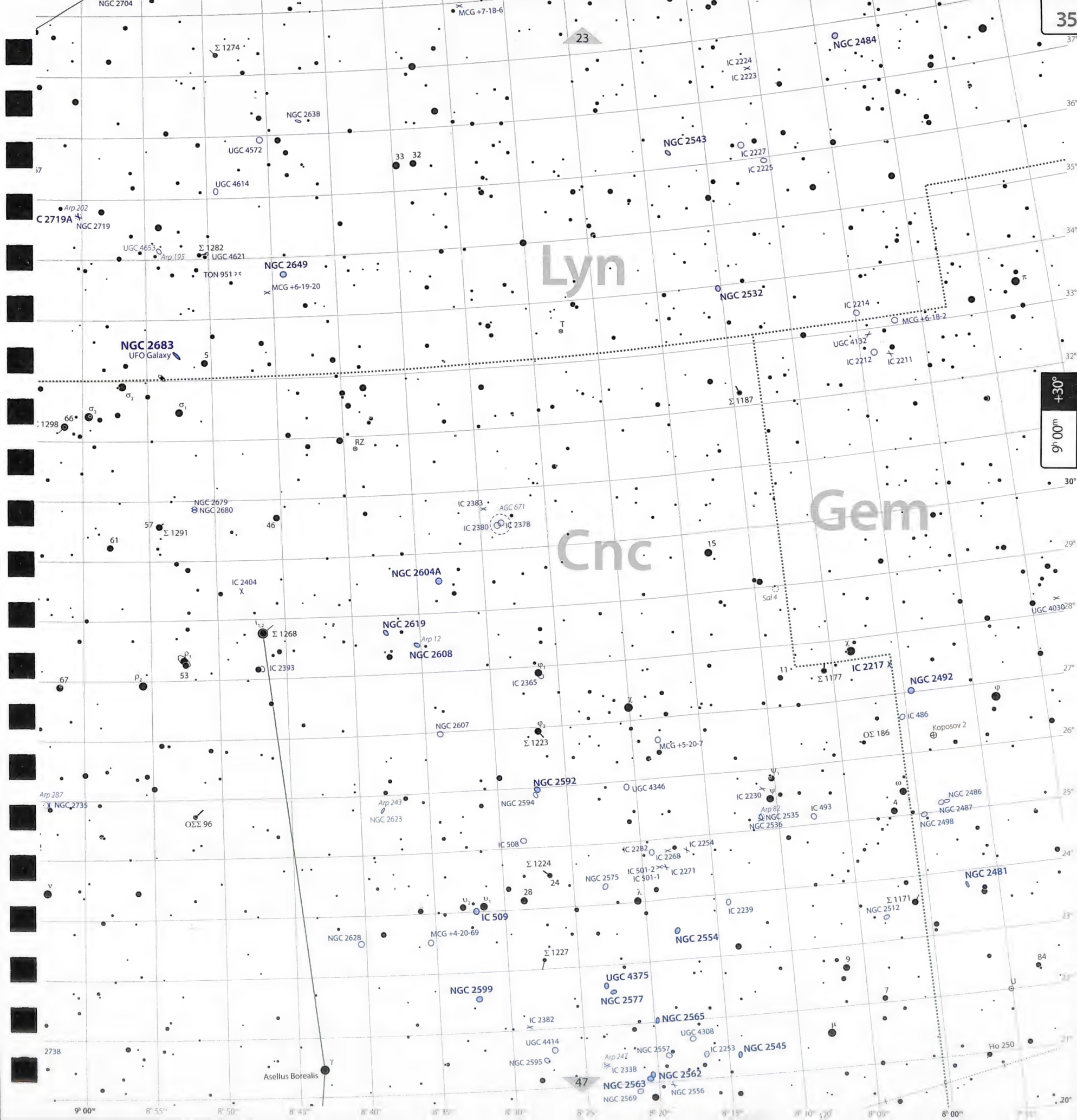












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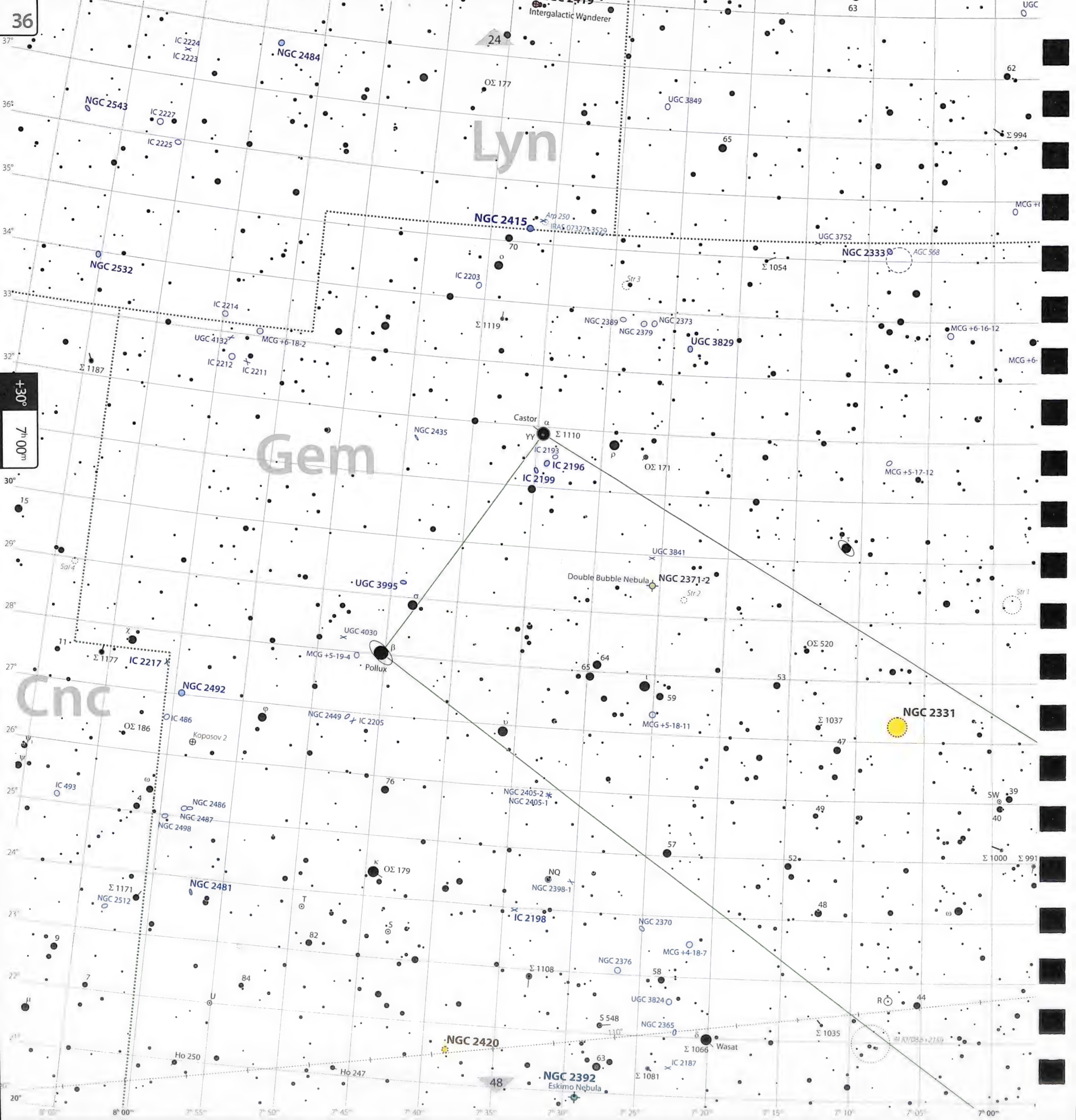
23

22

21

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Lyn

Gem

Cnc

+30°  
7h 00m

NGC 2415

NGC 2333

NGC 2532

NGC 2484

IC 2224  
IC 2223

IC 2227  
IC 2225

NGC 2543

IC 2214

UGC 4132

IC 2212

IC 2211

IC 2203

Σ 1119

NGC 2389

NGC 2379

UGC 3829

MCG +6-16-12

MCG +6-

Castor α

YY

IC 2193

IC 2196

IC 2199

Σ 1110

OS 171

MCG +5-17-12

NGC 2435

UGC 3995

UGC 4030

MCG +5-19-4

Pollux β

NGC 2492

IC 486

Koposov 2

NGC 2449

IC 2205

OS 186

IC 493

NGC 2486

NGC 2487

NGC 2498

NGC 2481

Σ 1171

NGC 2512

OS 179

NQ

NGC 2398-1

IC 2198

Σ 1108

NGC 2376

NGC 2370

MCG +4-18-7

UGC 3824

NGC 2365

Σ 1066

Wasat

Σ 1081

NGC 2392

Eskimo Nebula

NGC 2420

Ho 250

Ho 247

R

Σ 1035

AI 1728-2160

7h 00m

20°

8h 00m

7h 55m

7h 50m

7h 45m

7h 40m

7h 35m

7h 30m

7h 25m

7h 20m

7h 15m

7h 10m

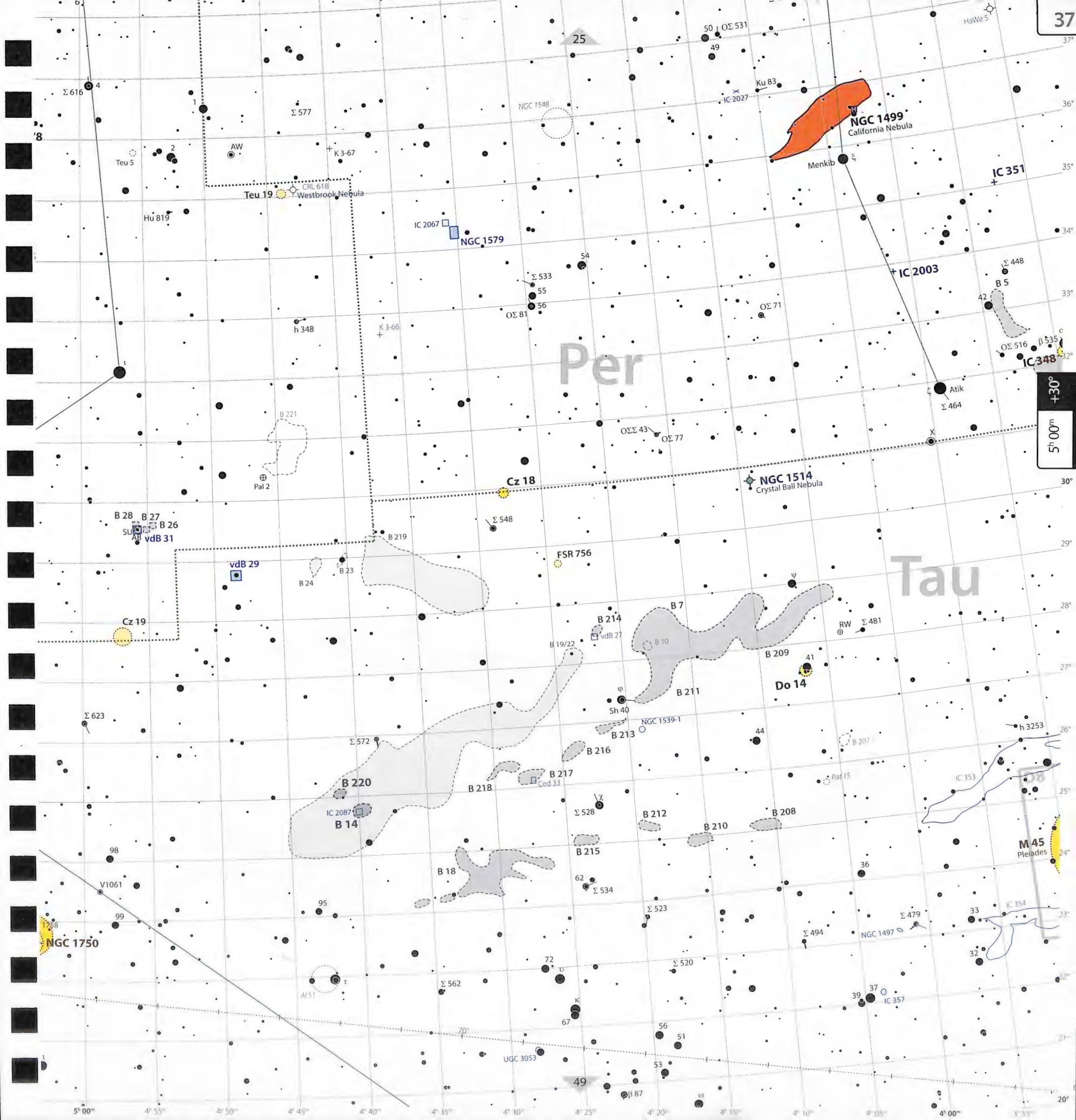
7h 05m





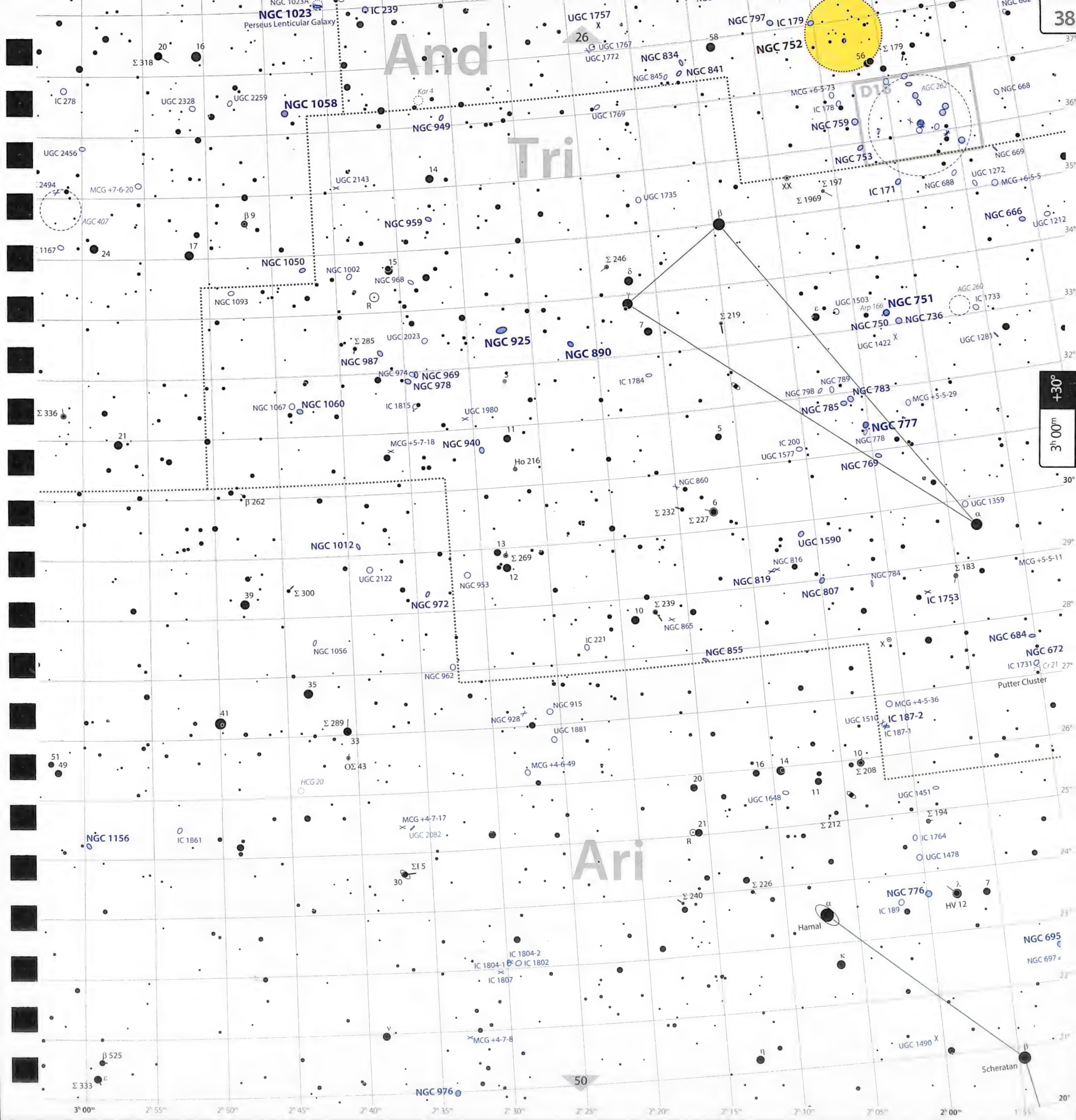












And  
Tri

Ari

38

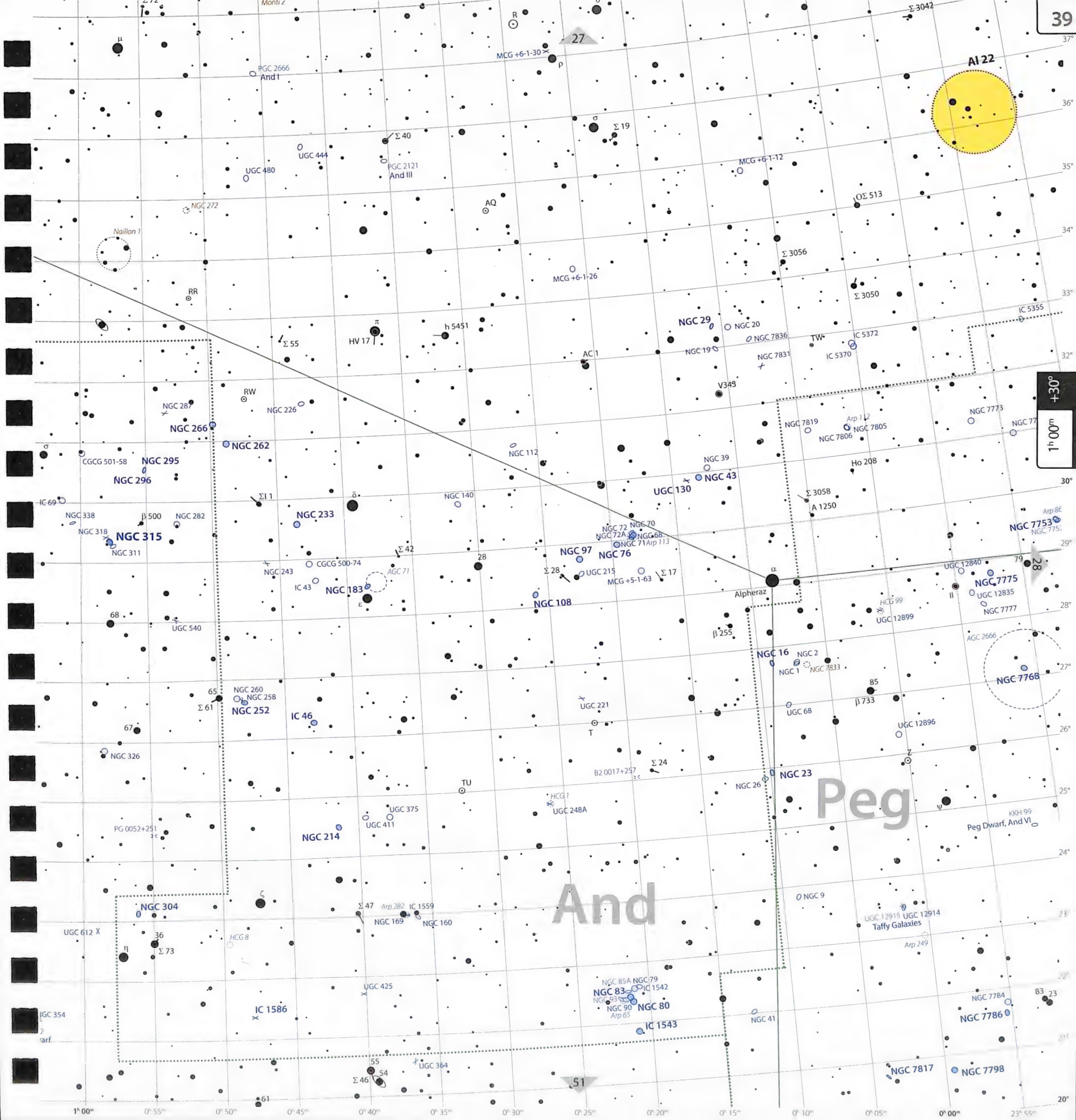
+30°  
3h 00m

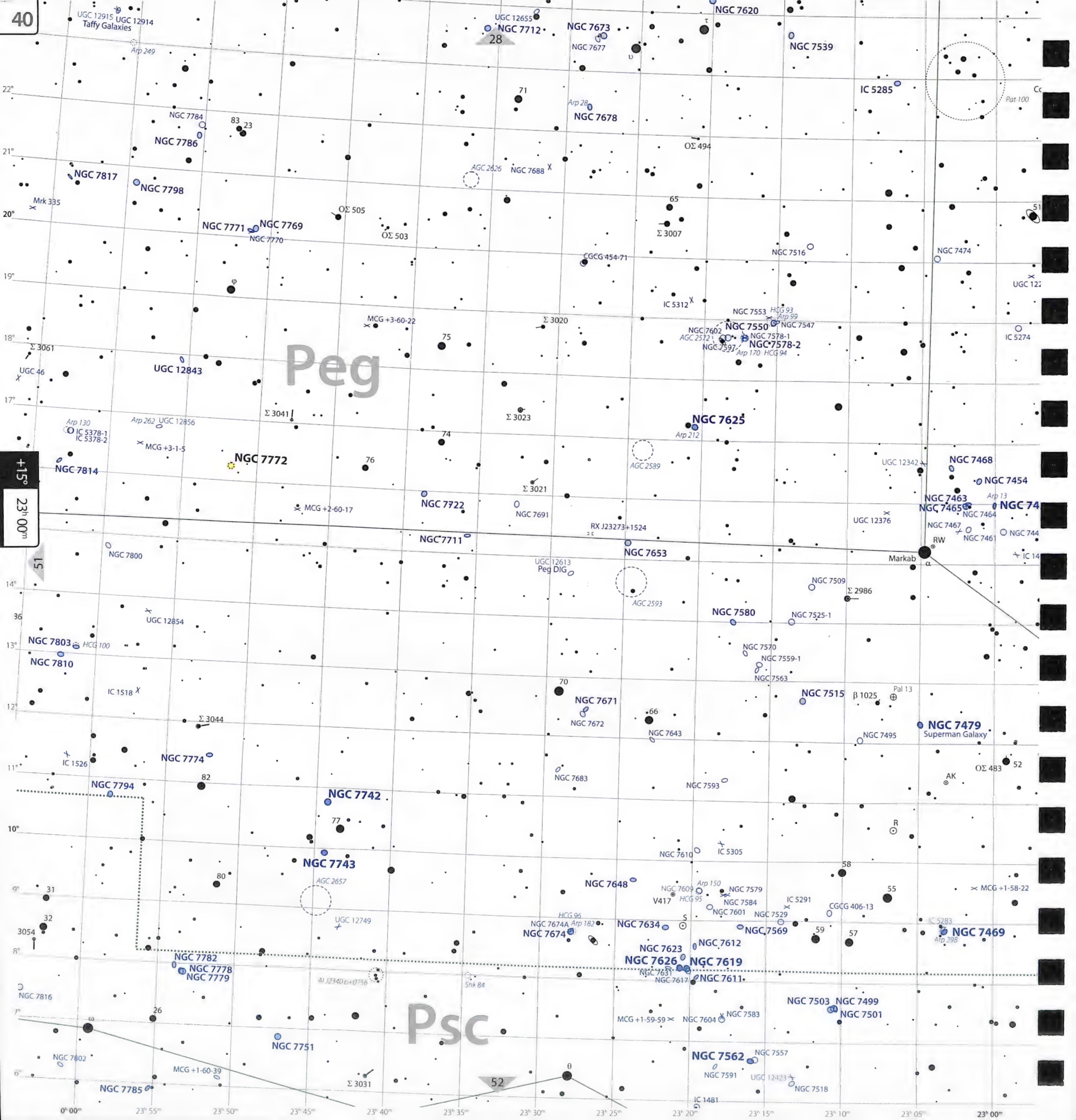
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20°

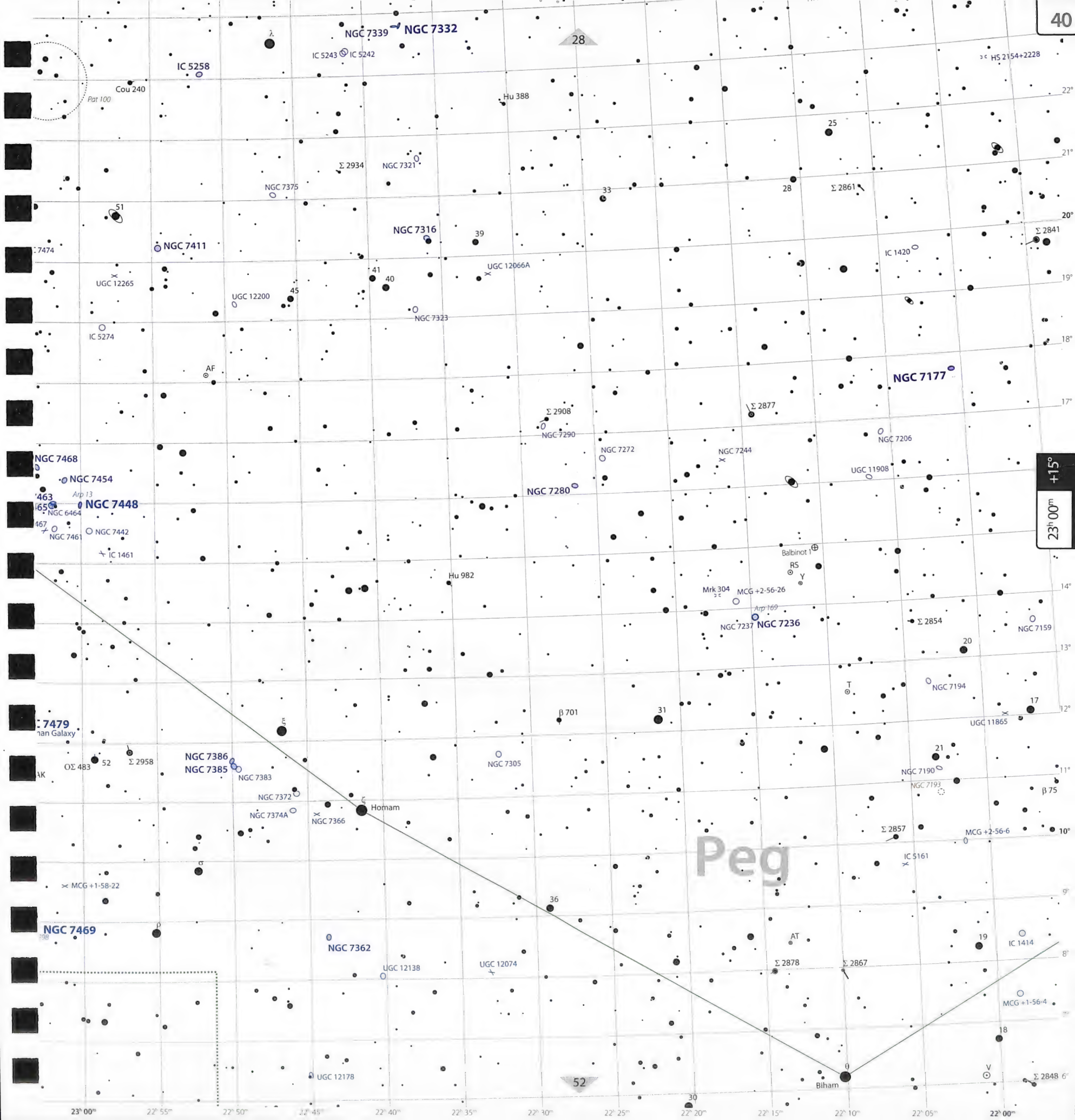


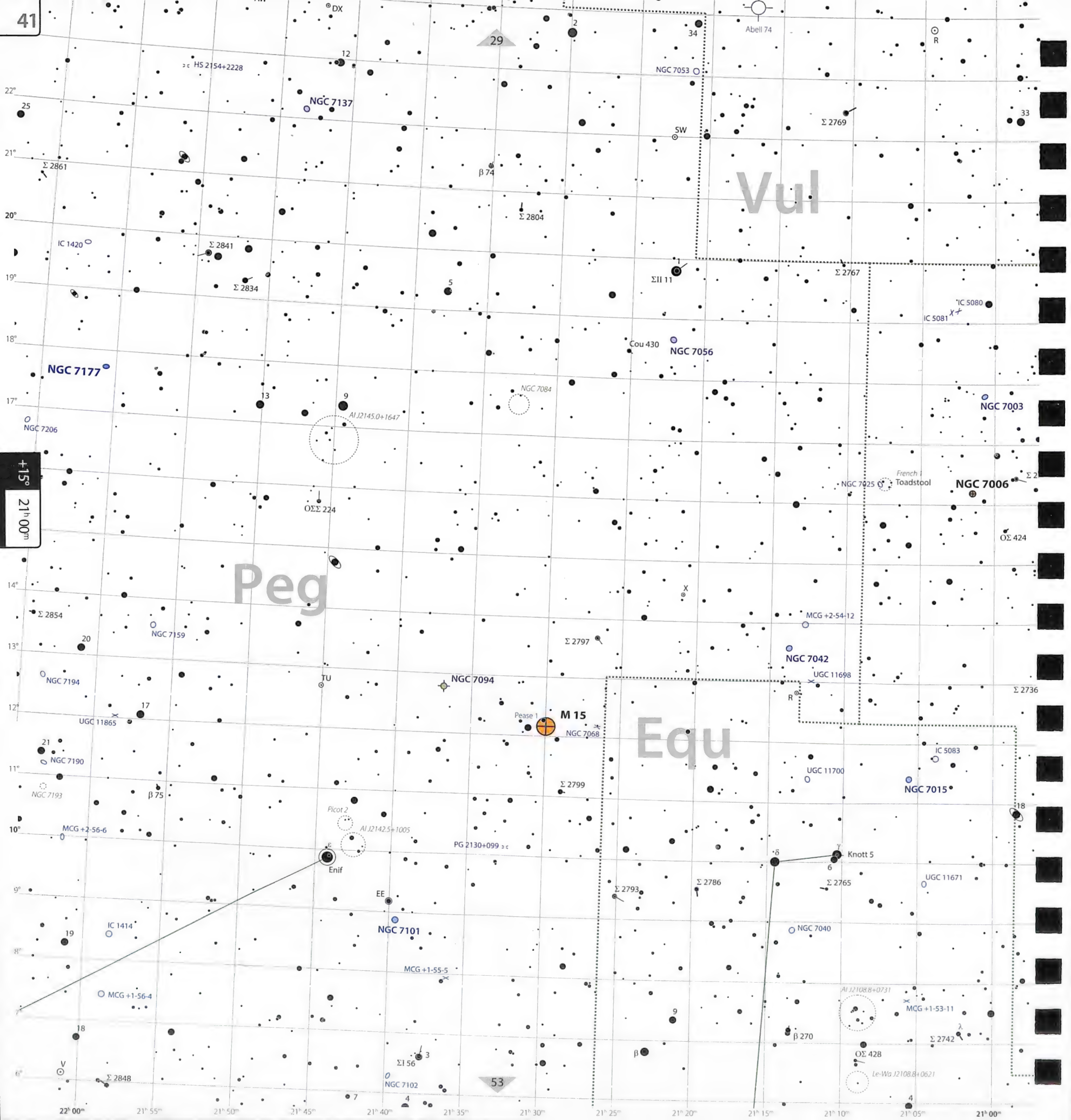




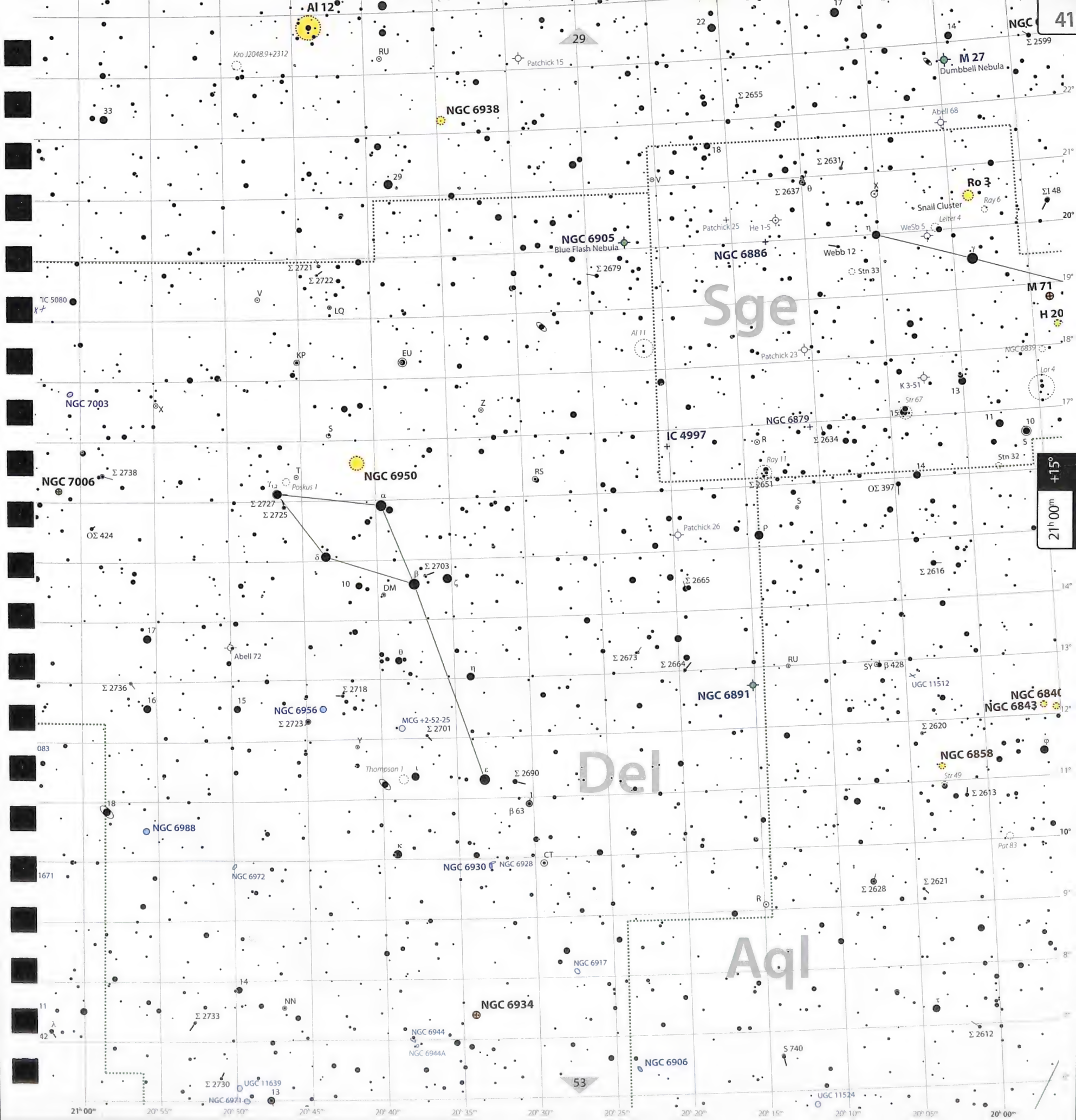


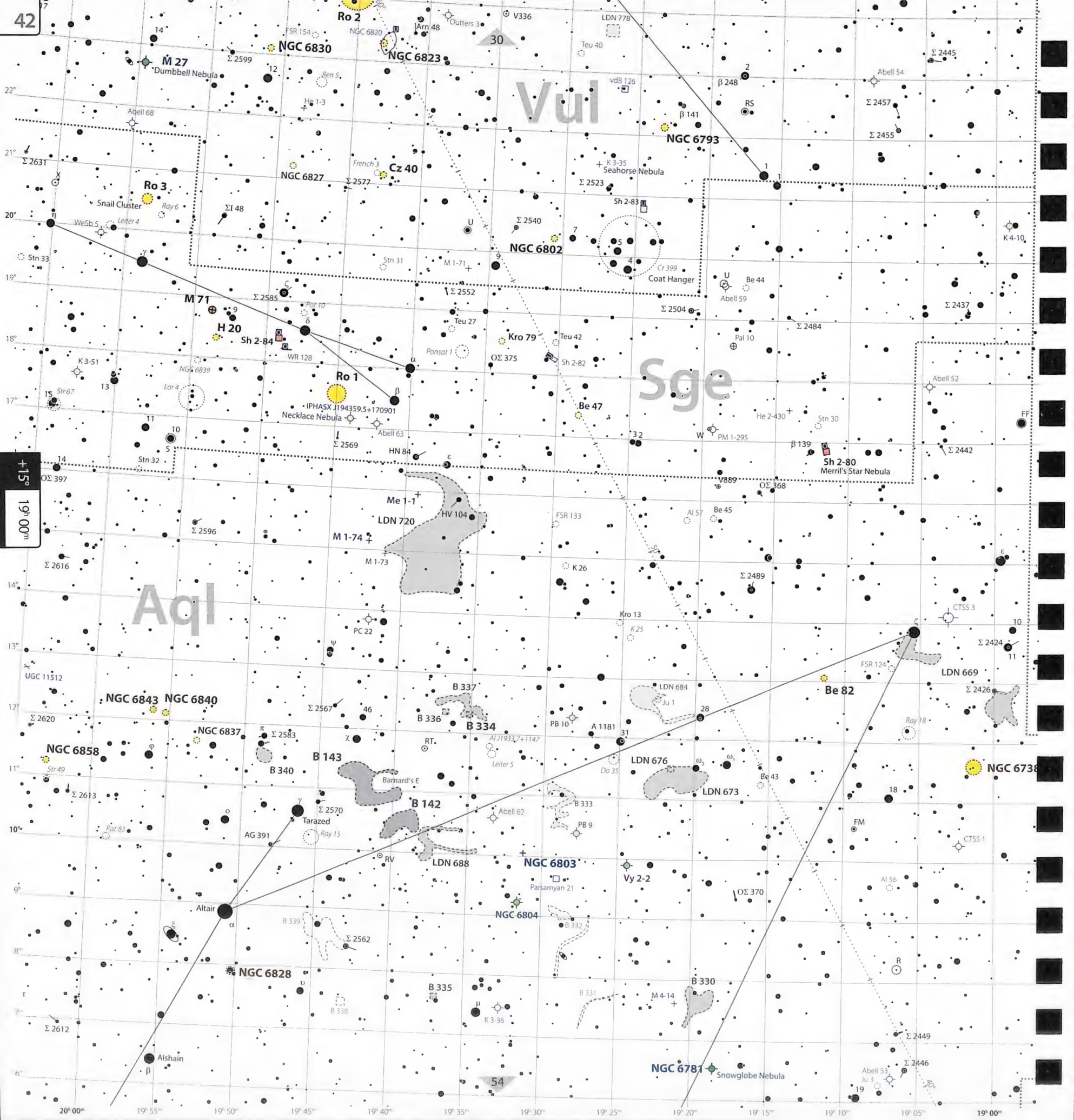




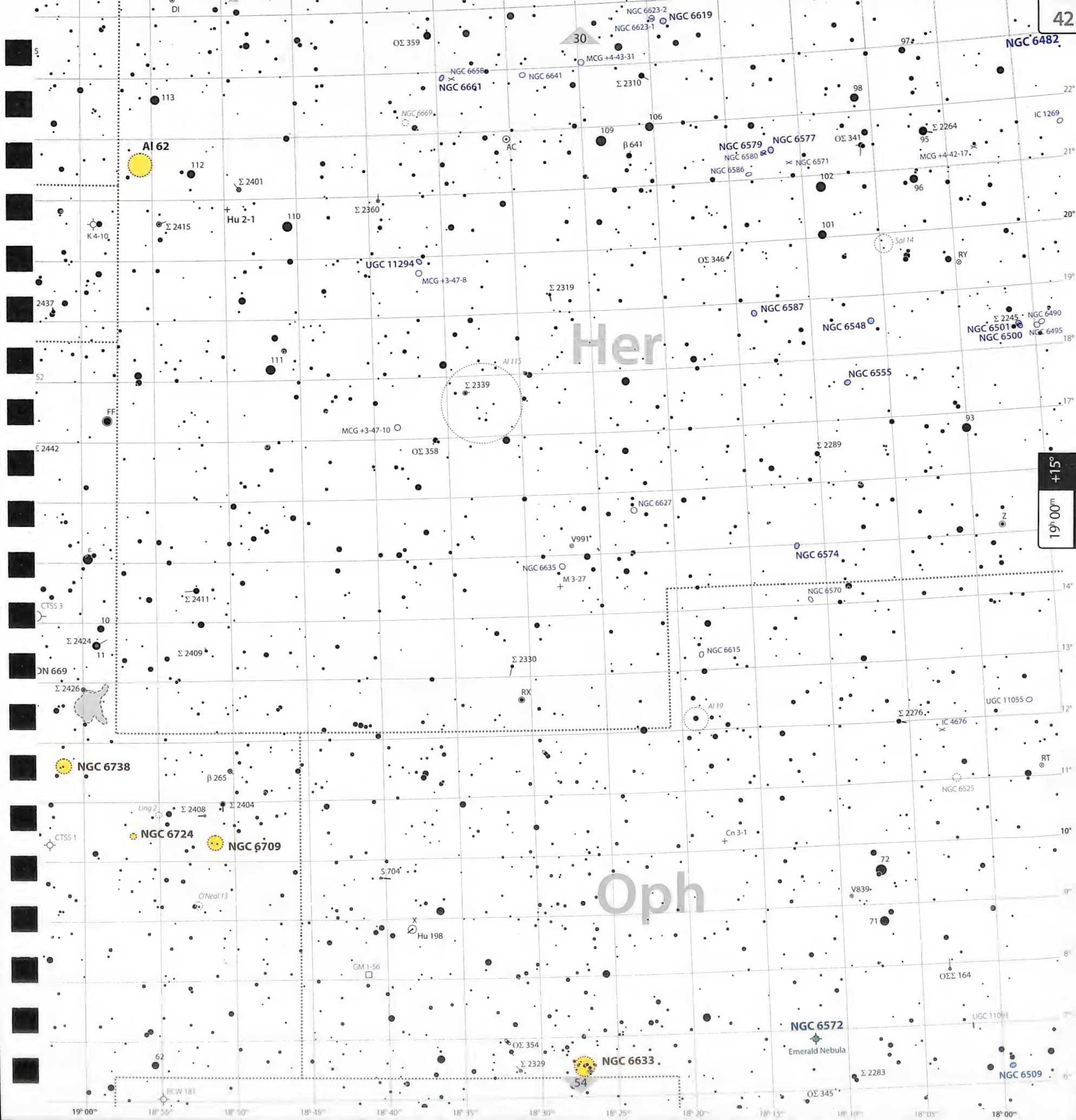






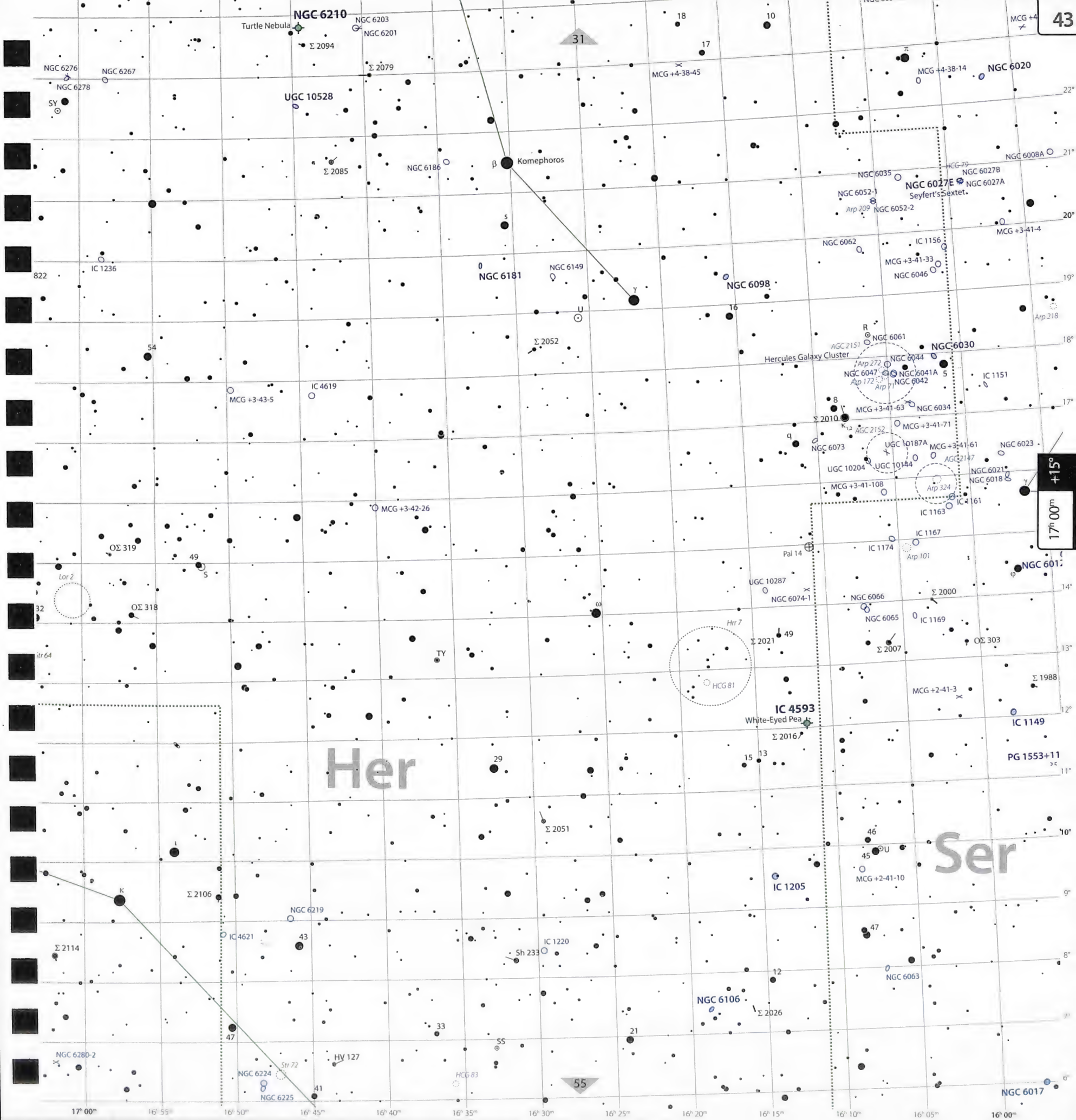


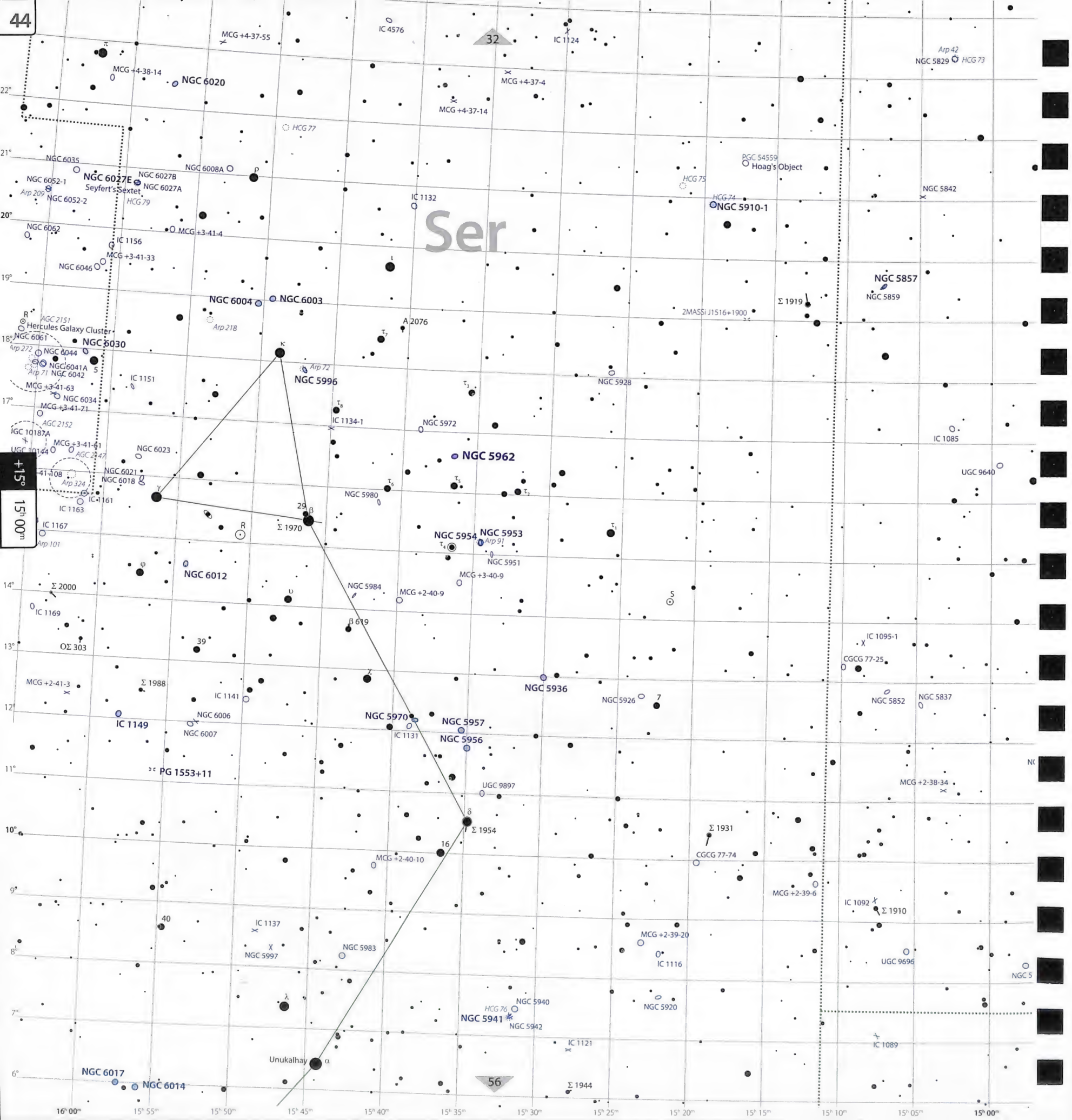




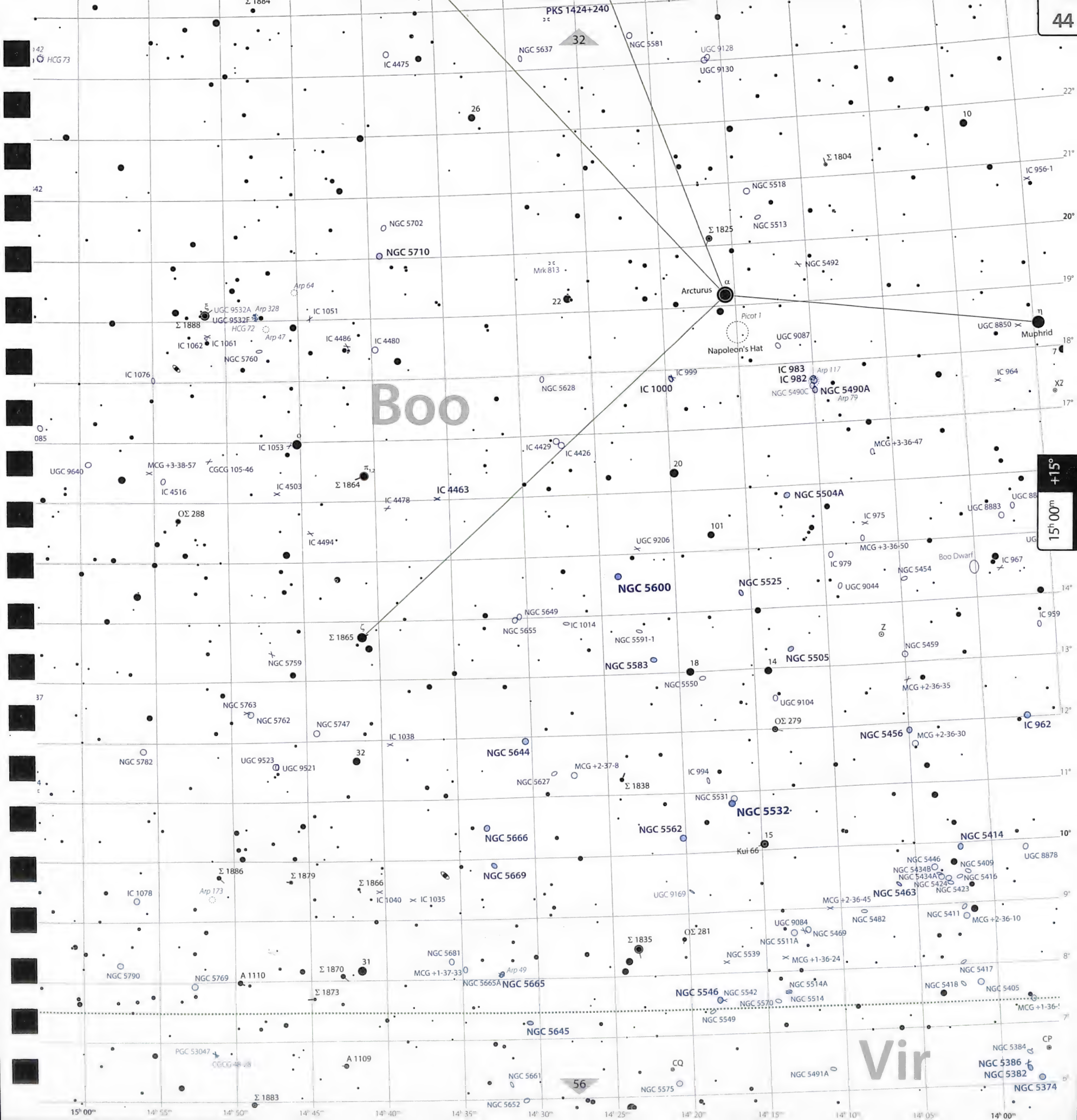


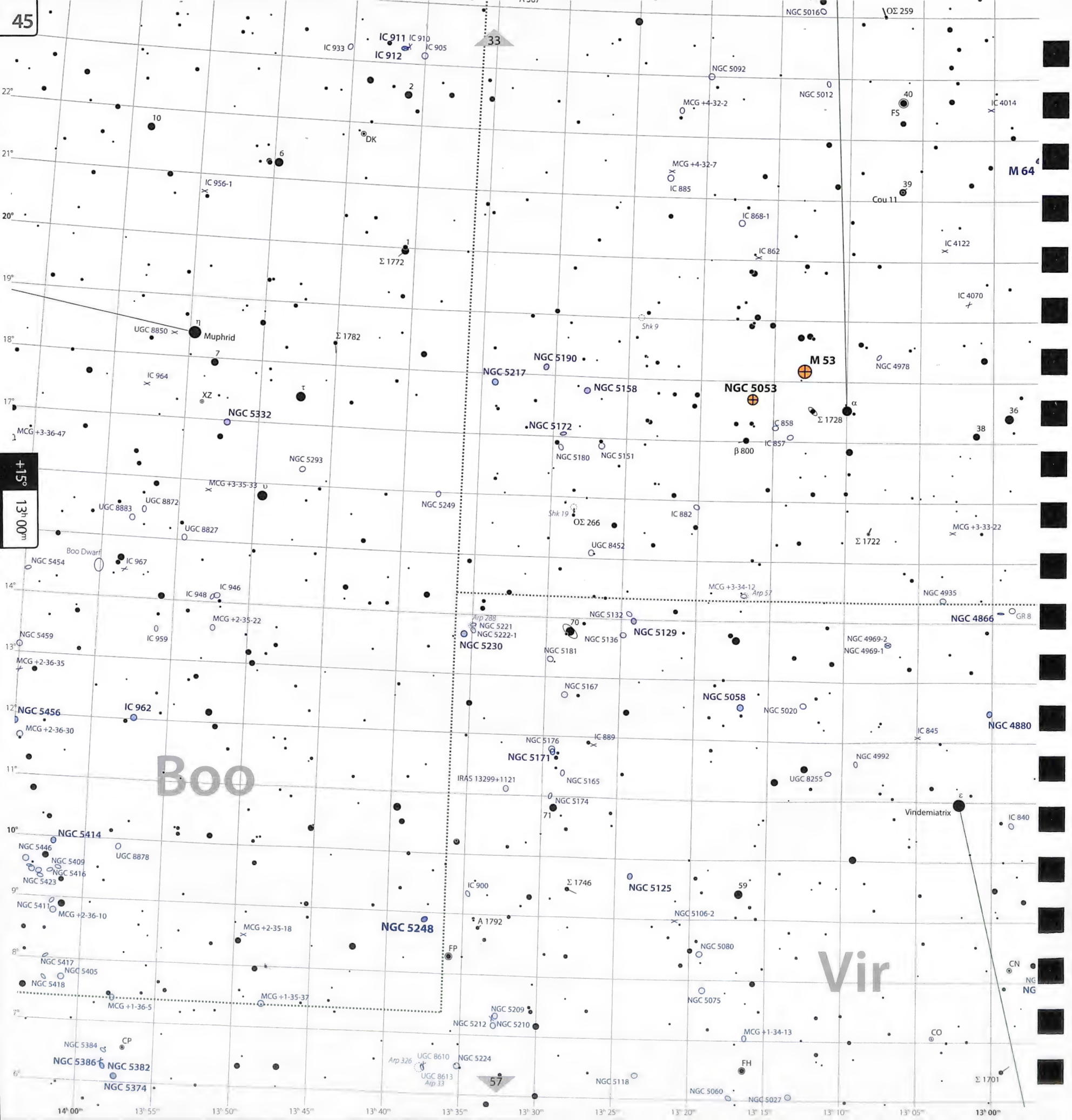




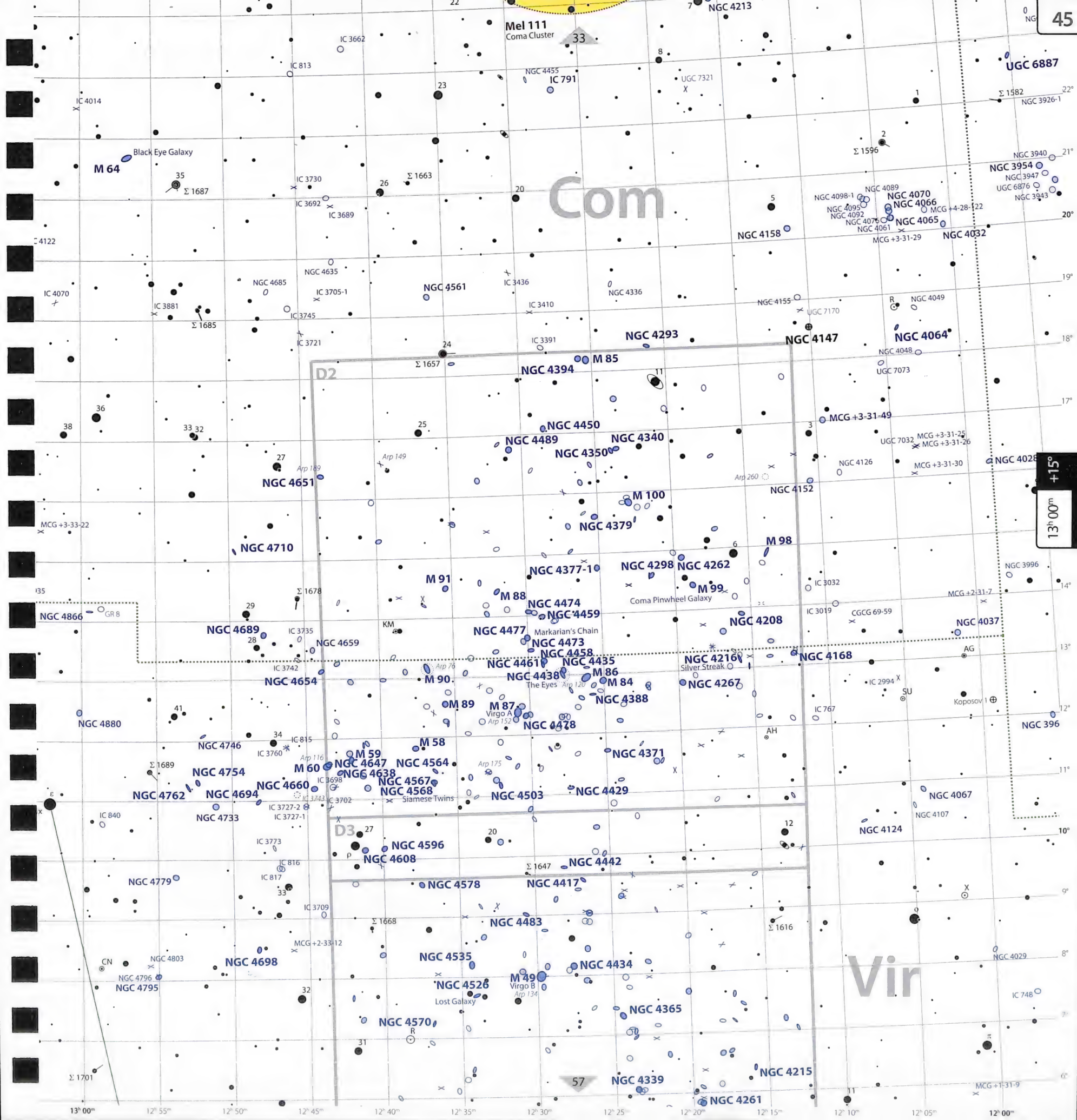












Com

Vir

13h 00m  
+15°

D2

D3

Mel 111  
Coma Cluster

Black Eye Galaxy

Coma Pinwheel Galaxy

Markarian's Chain

The Eyes

Siamese Twins

Lost Galaxy

UGC 6887

M 64

M 85

M 100

M 98

M 99

M 88

M 87

M 86

M 84

M 83

M 82

M 81

M 80

M 79

M 78

M 77

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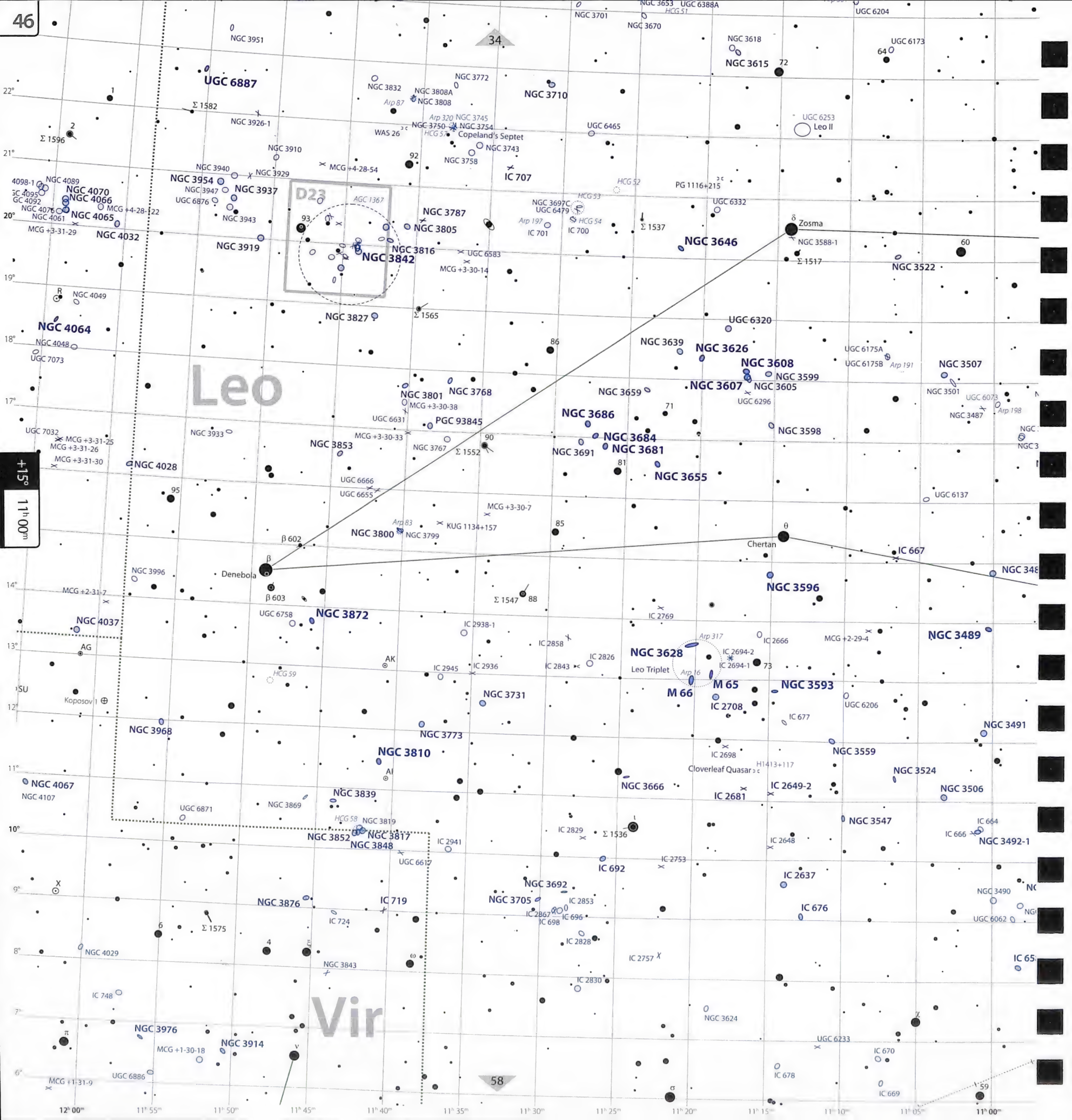
M -207

M -208

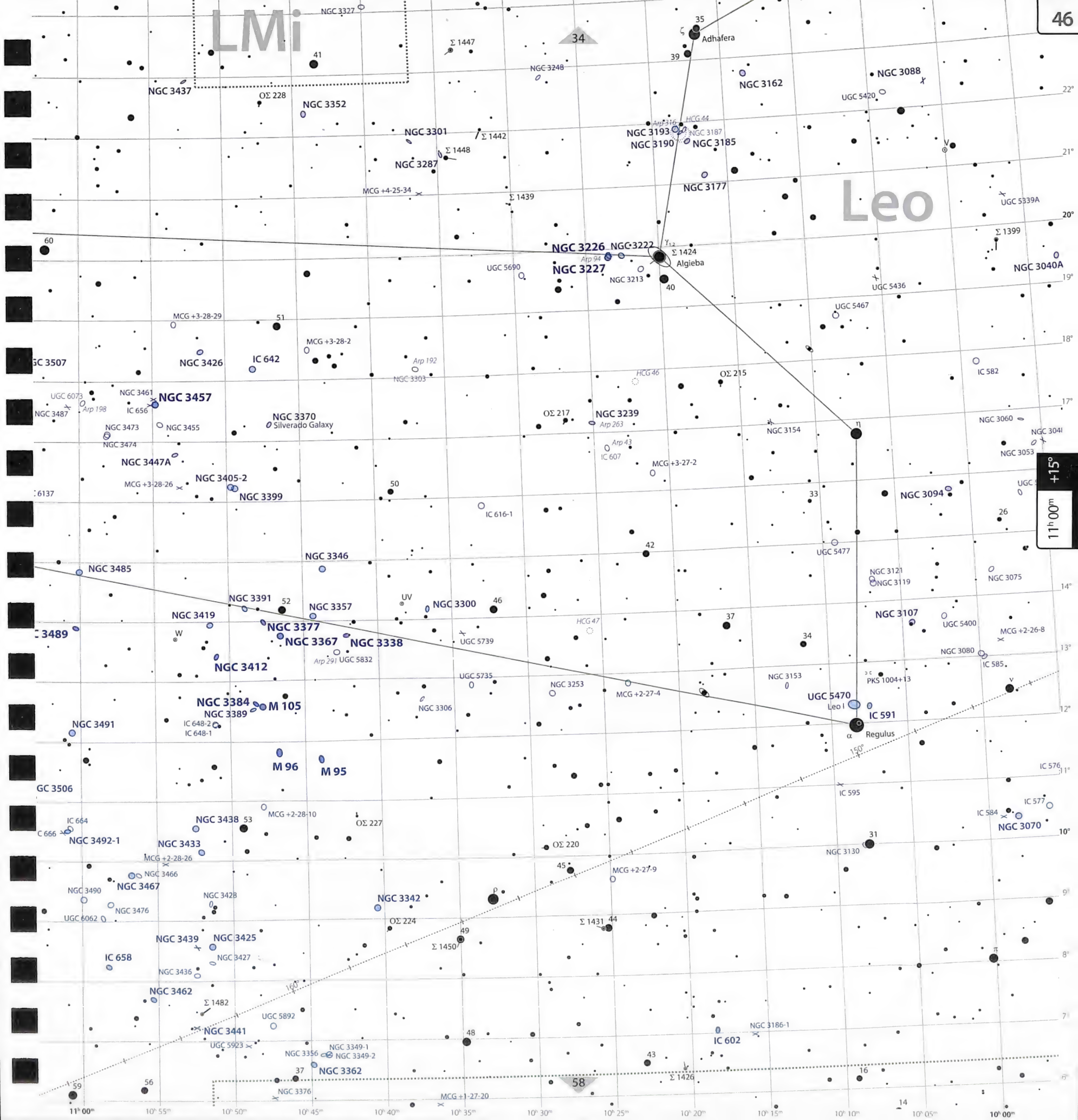
M -209

M -210

M -211

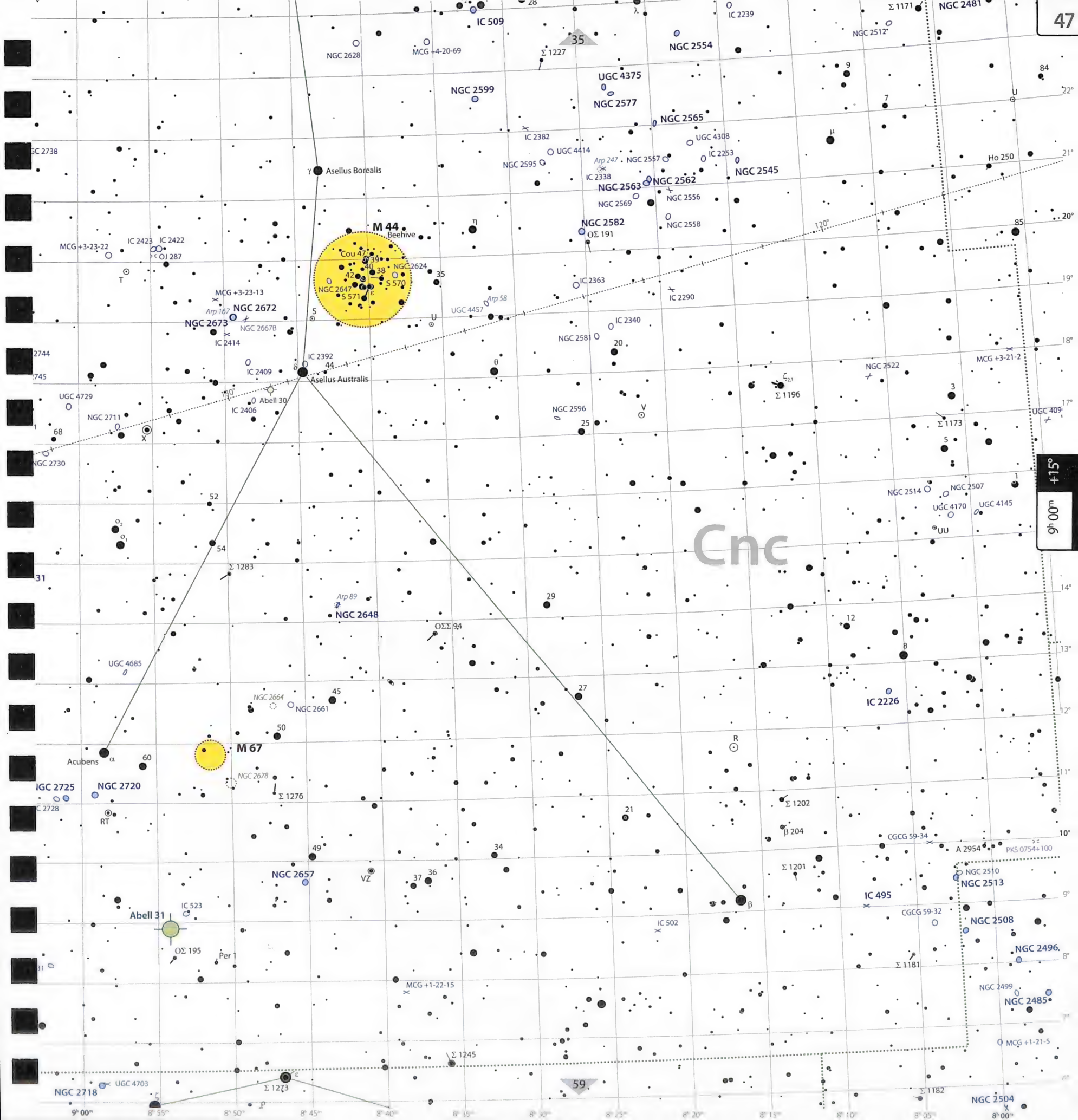


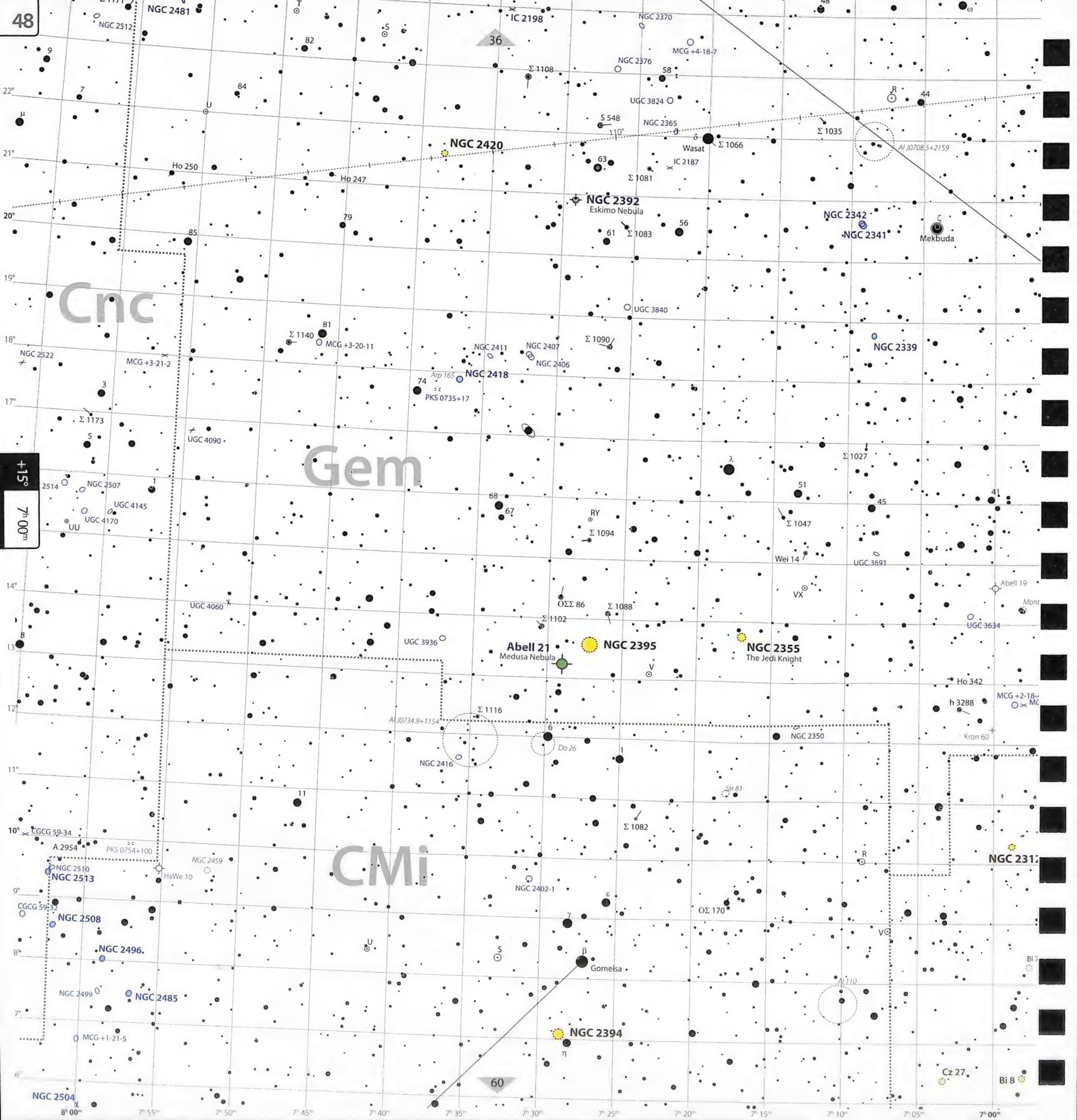




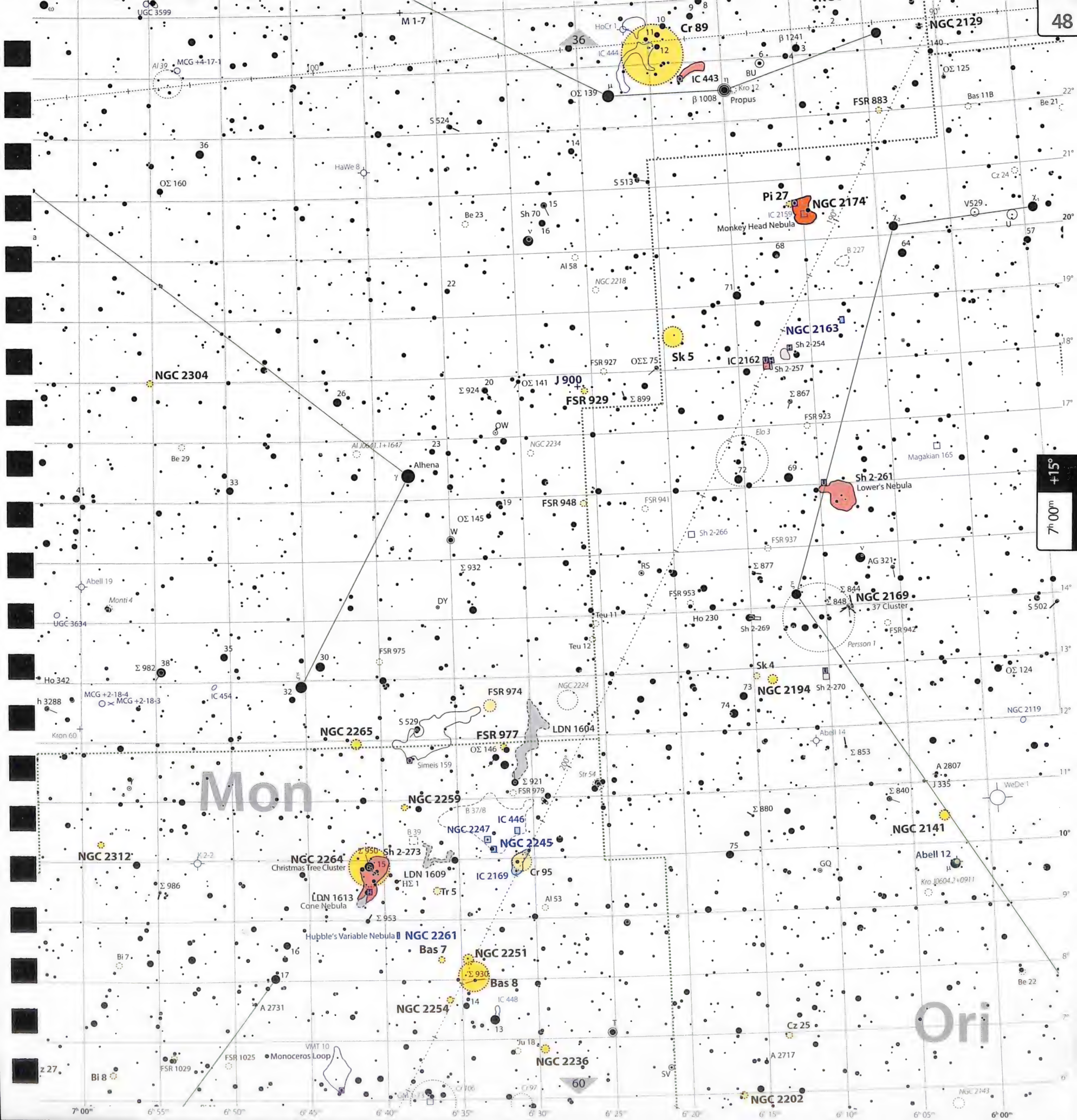


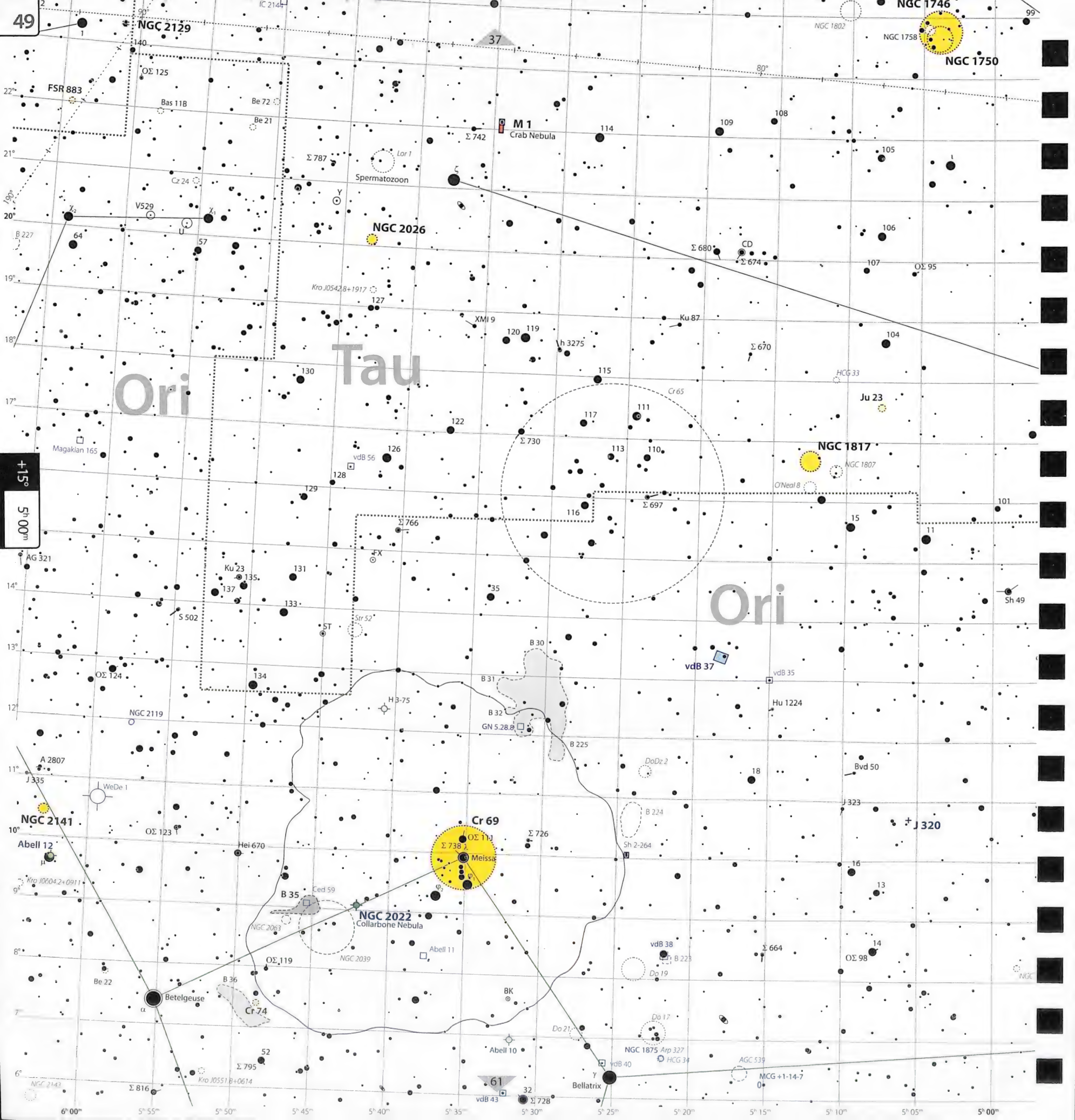




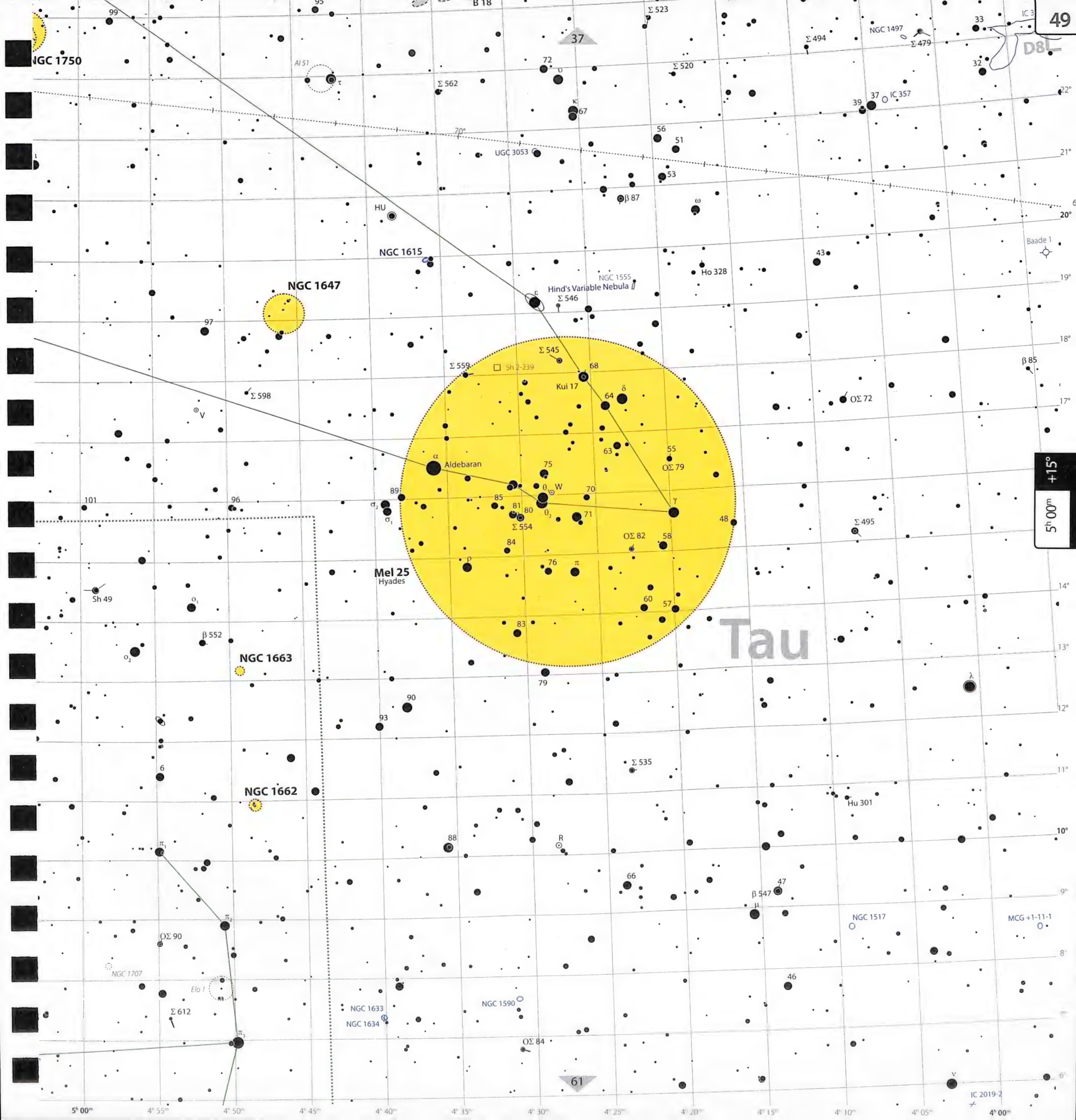


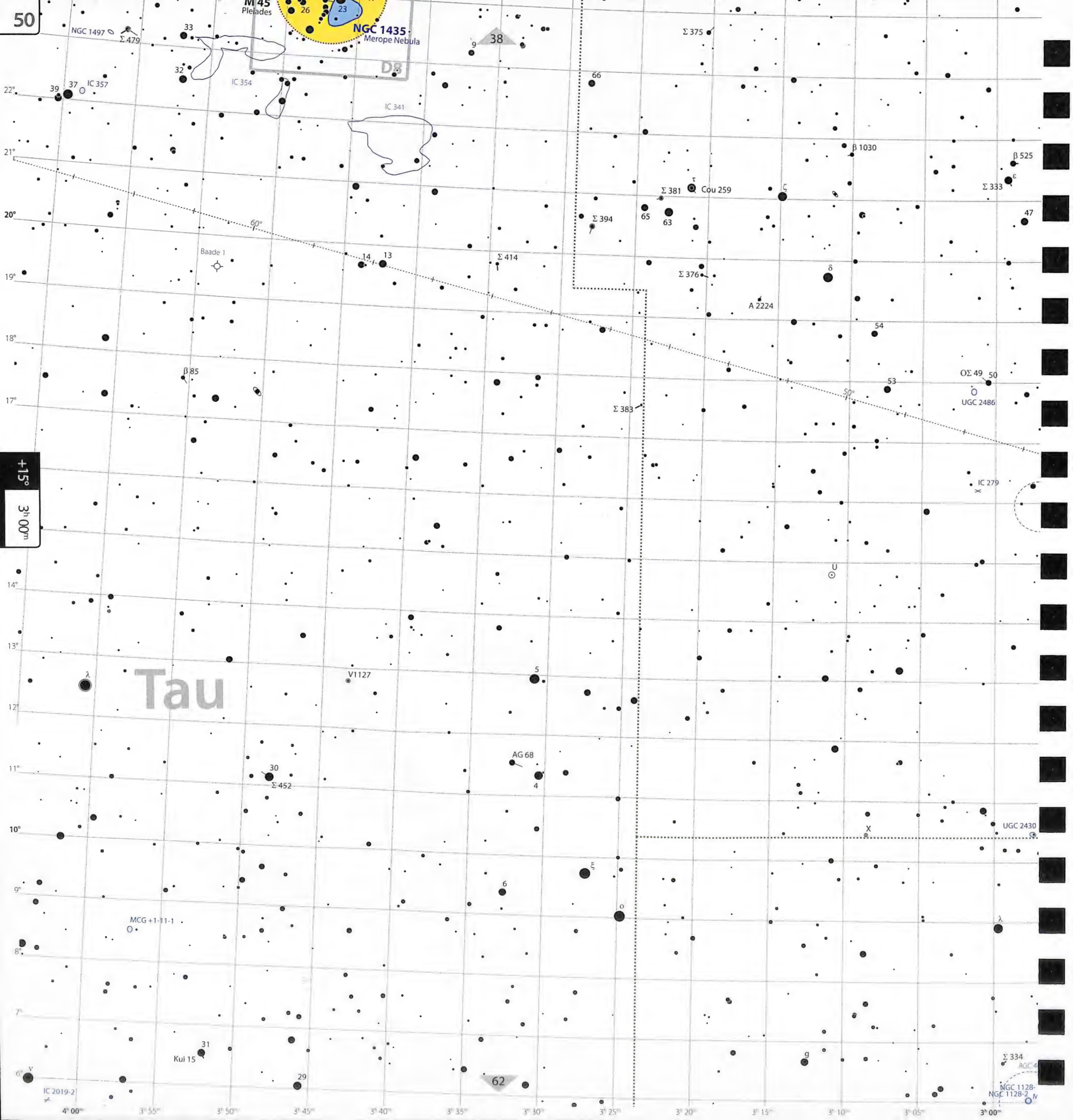




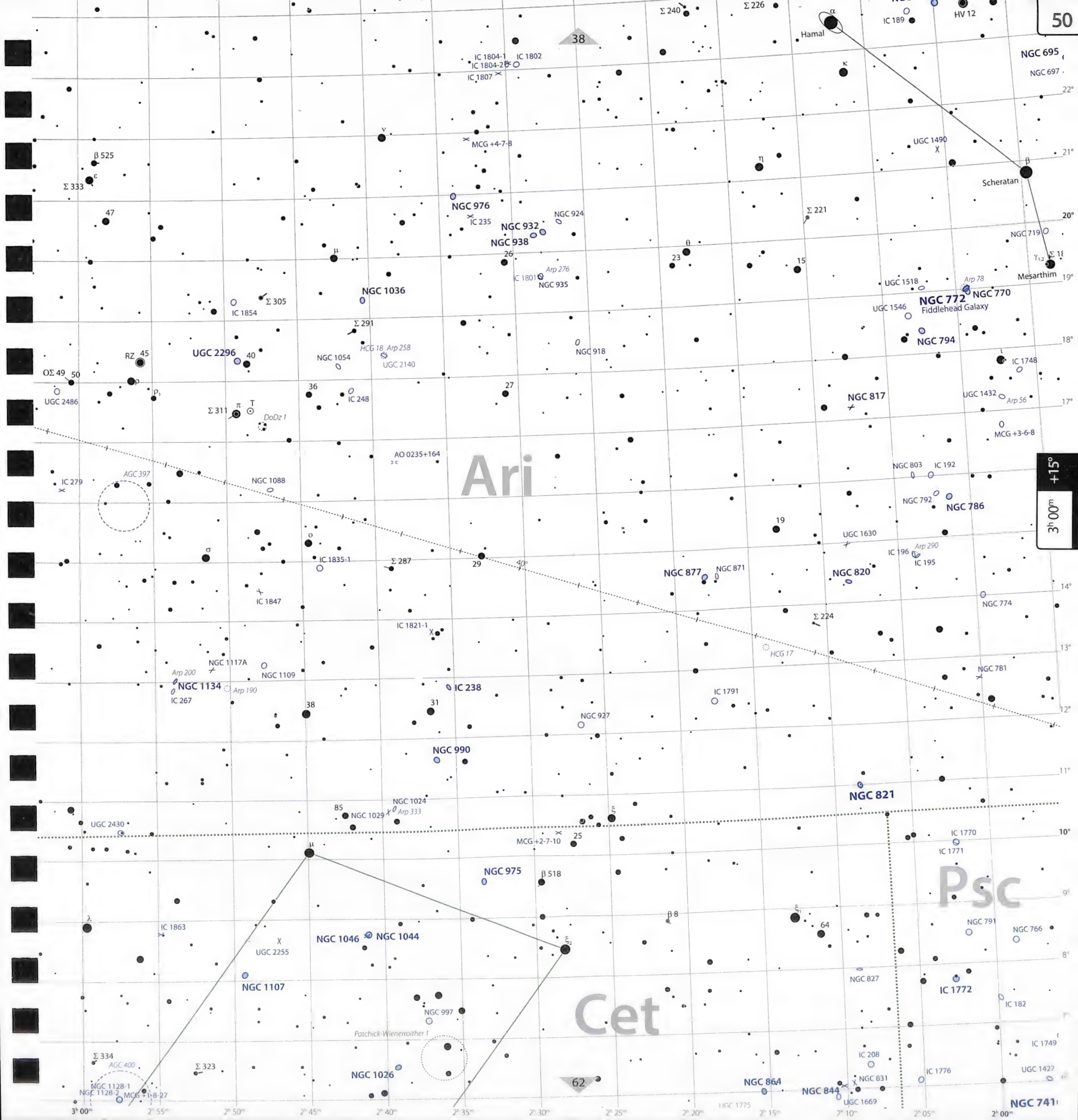


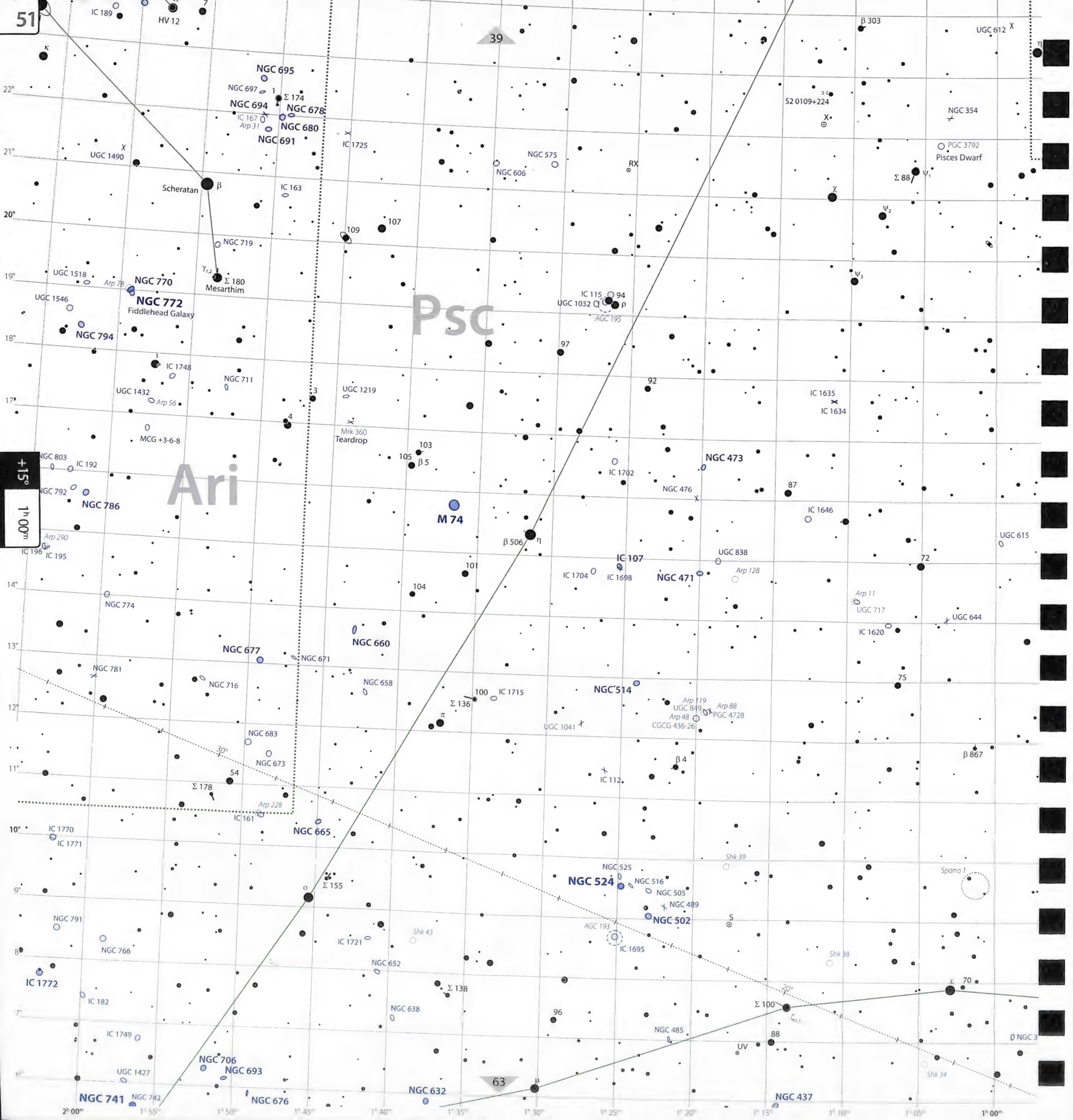




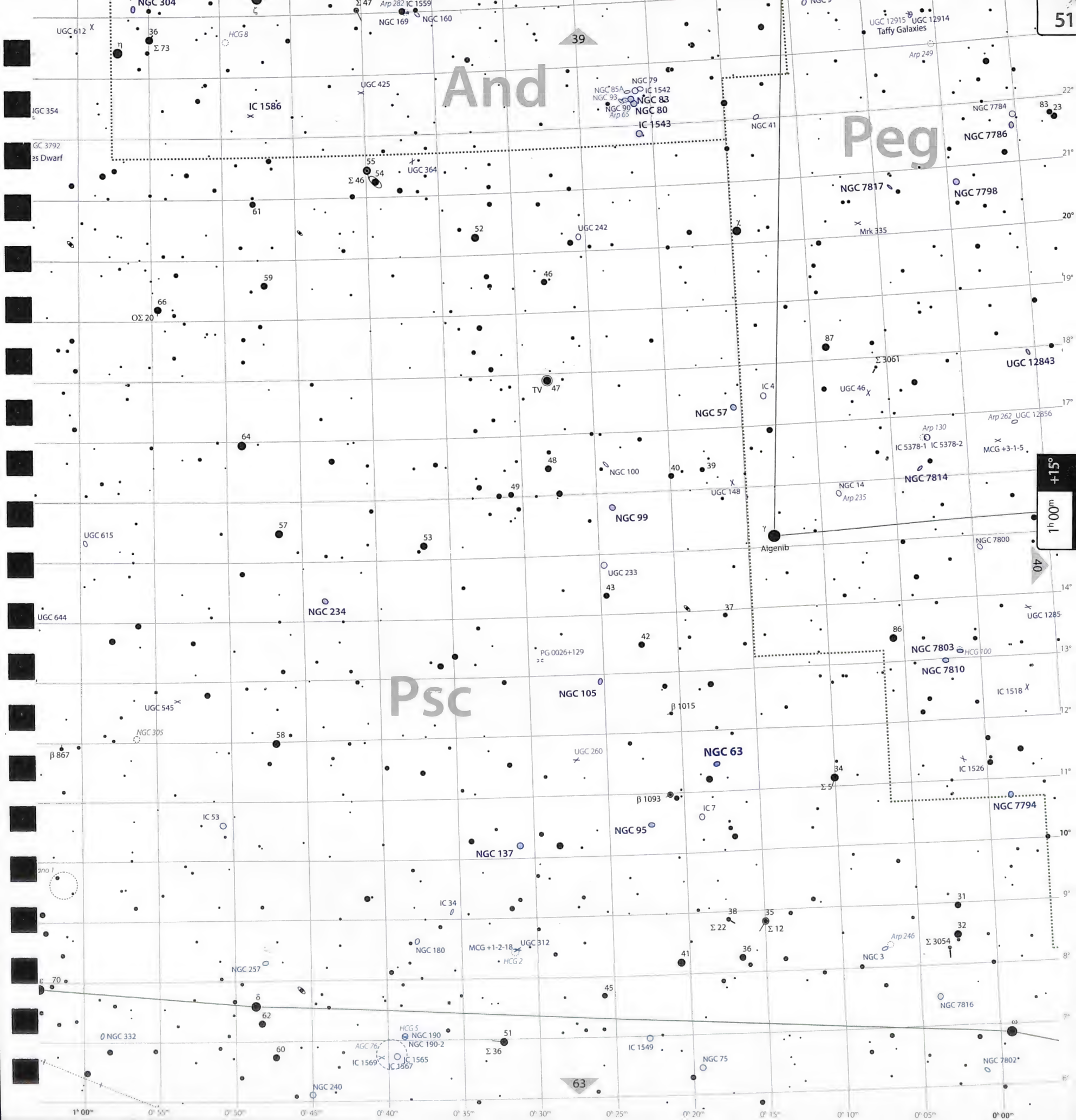


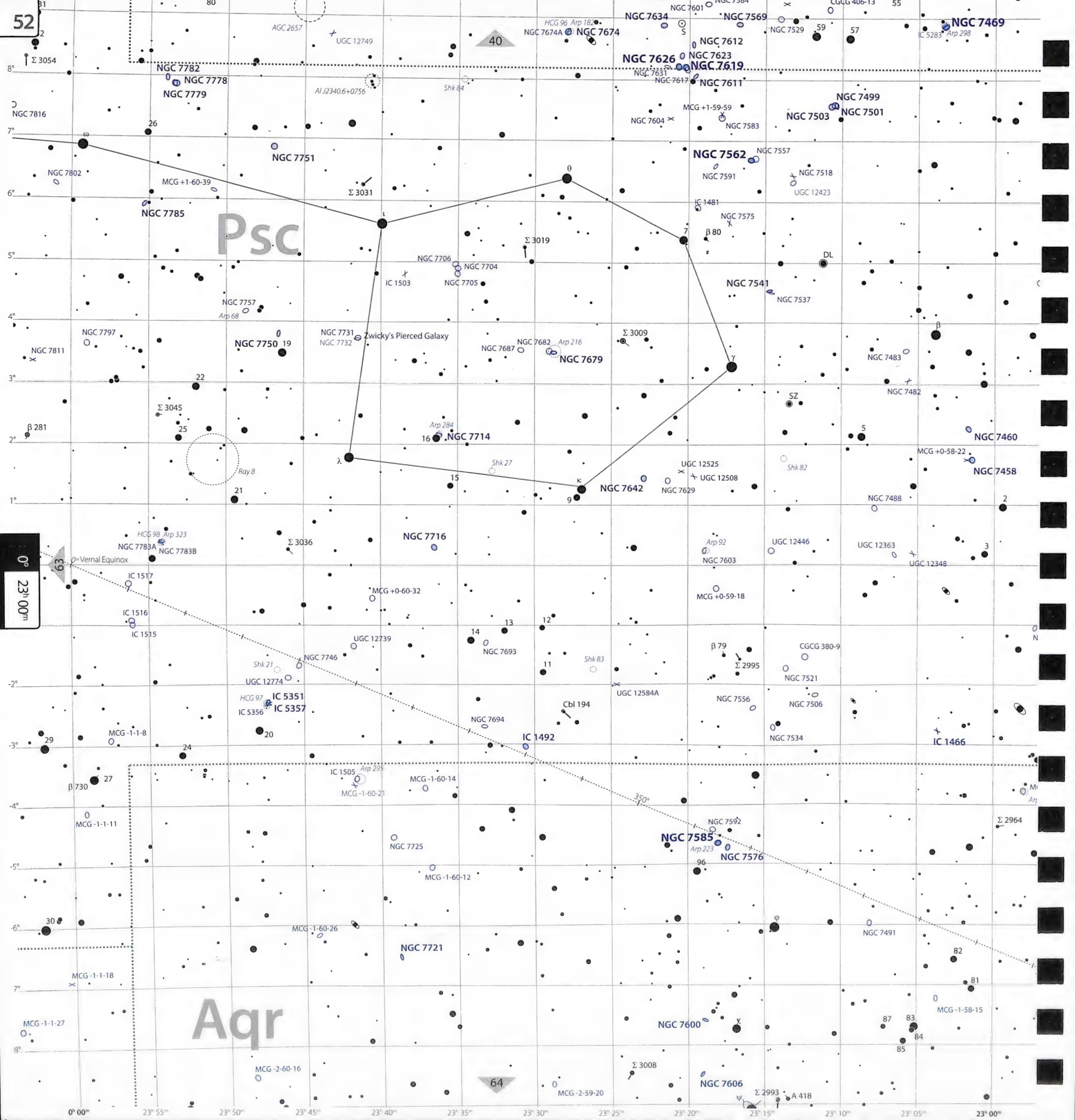












52

Psc

Aqr

0° 23h 00m

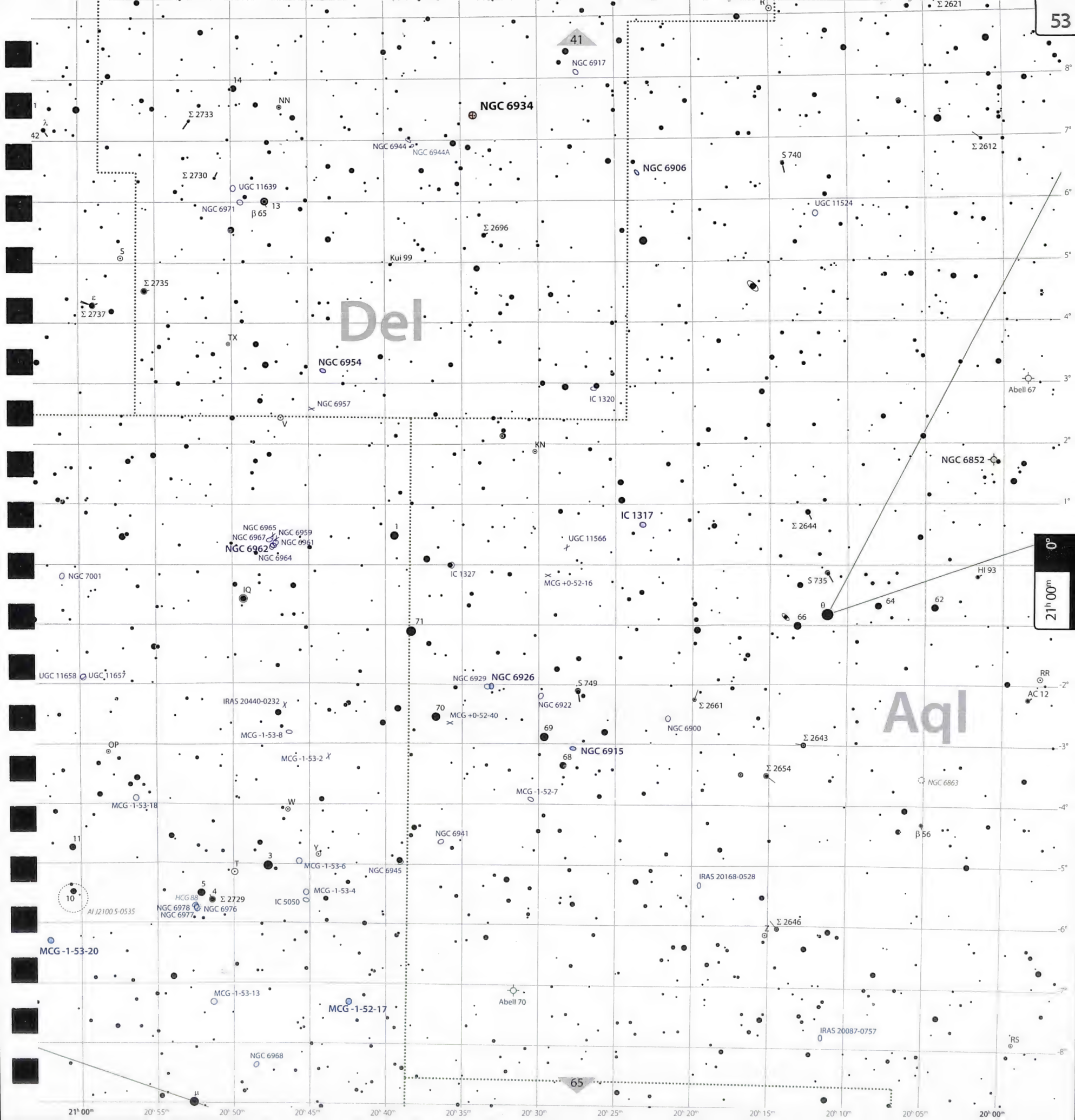
64















NGC 6633

IC 4756

### Archinal 1

PC 19

Ser

# Sct

GC 6728

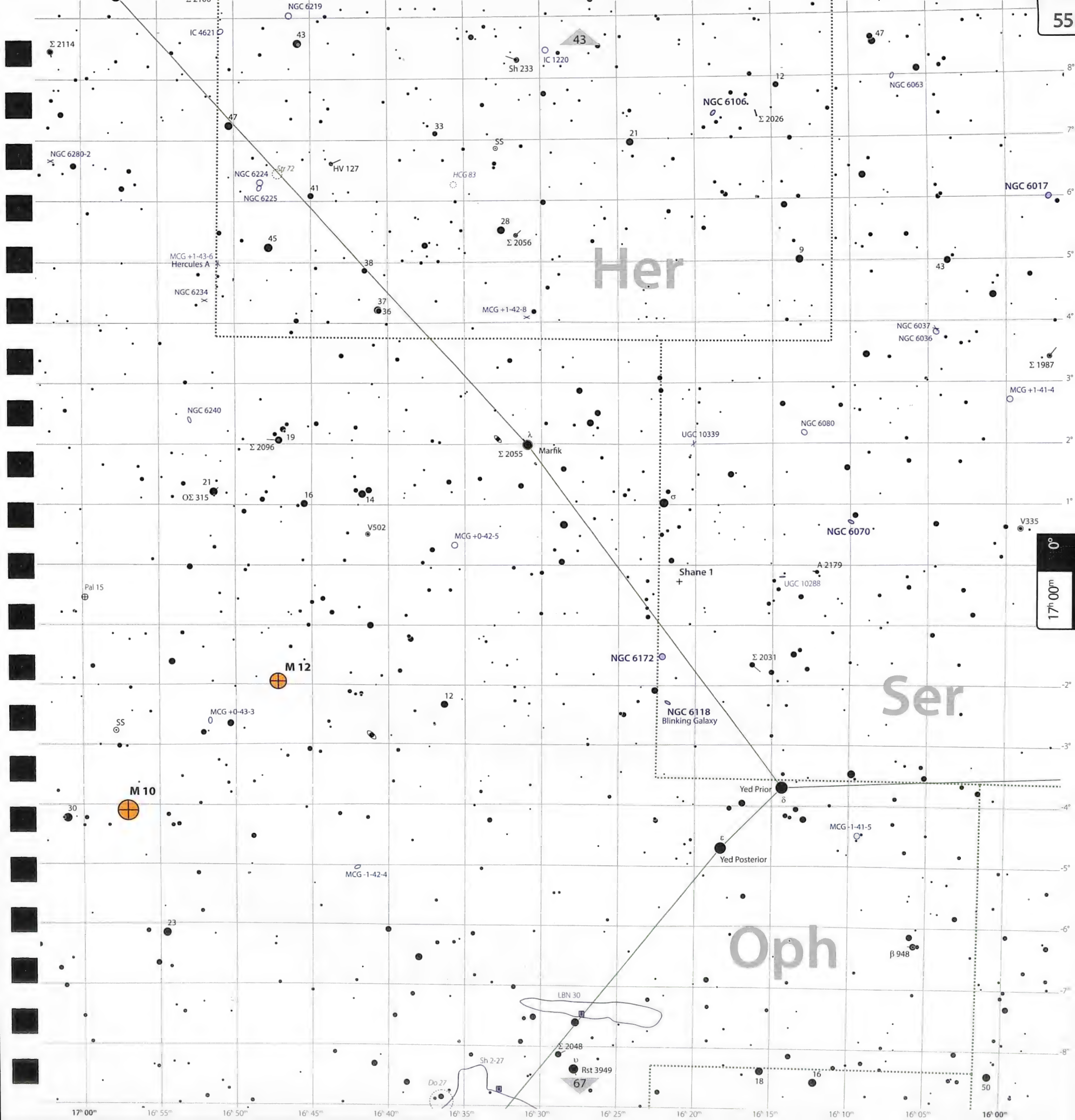
NGC 6712  
• Weird Globular

NGC 6539

19h 00m

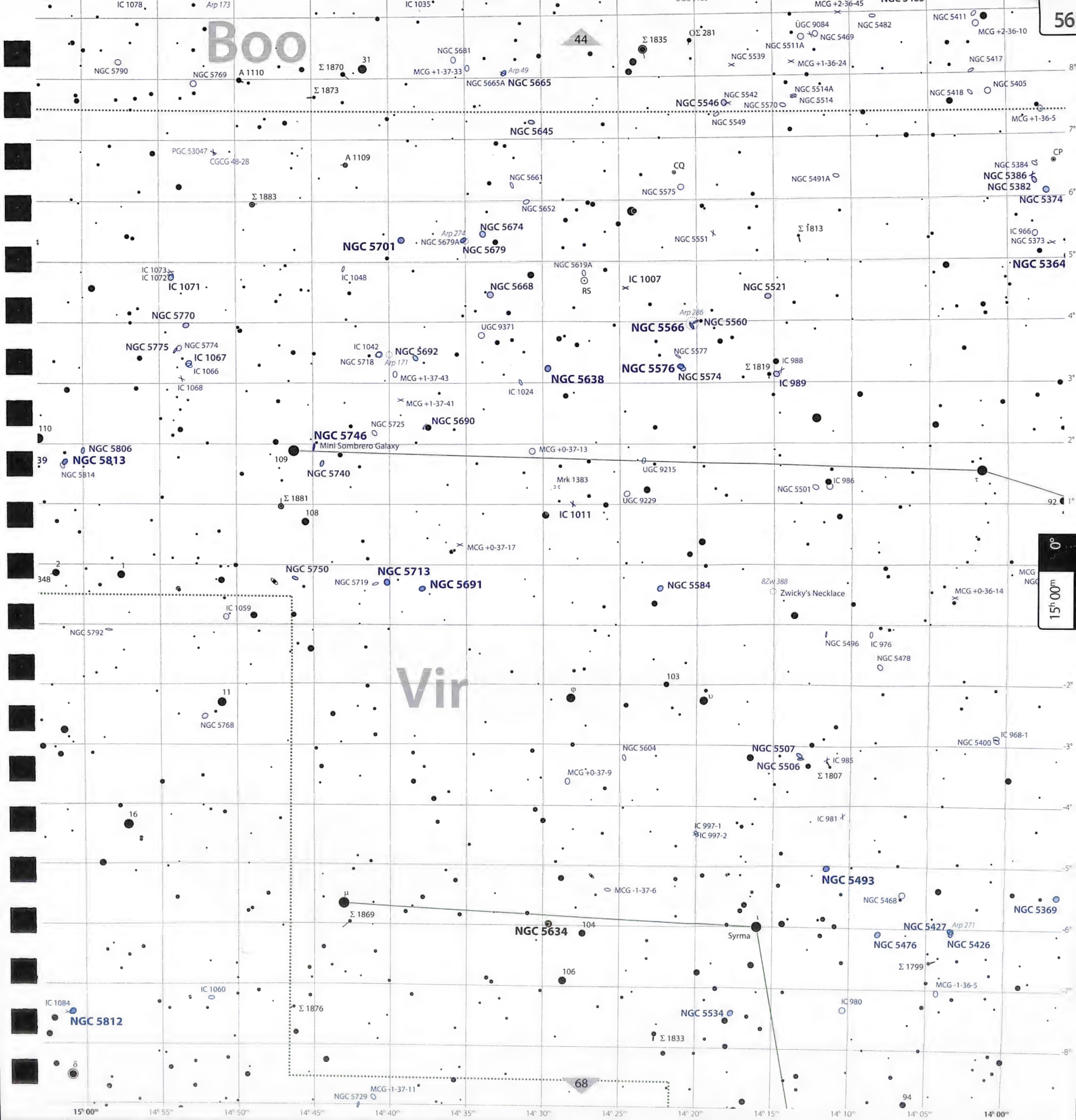






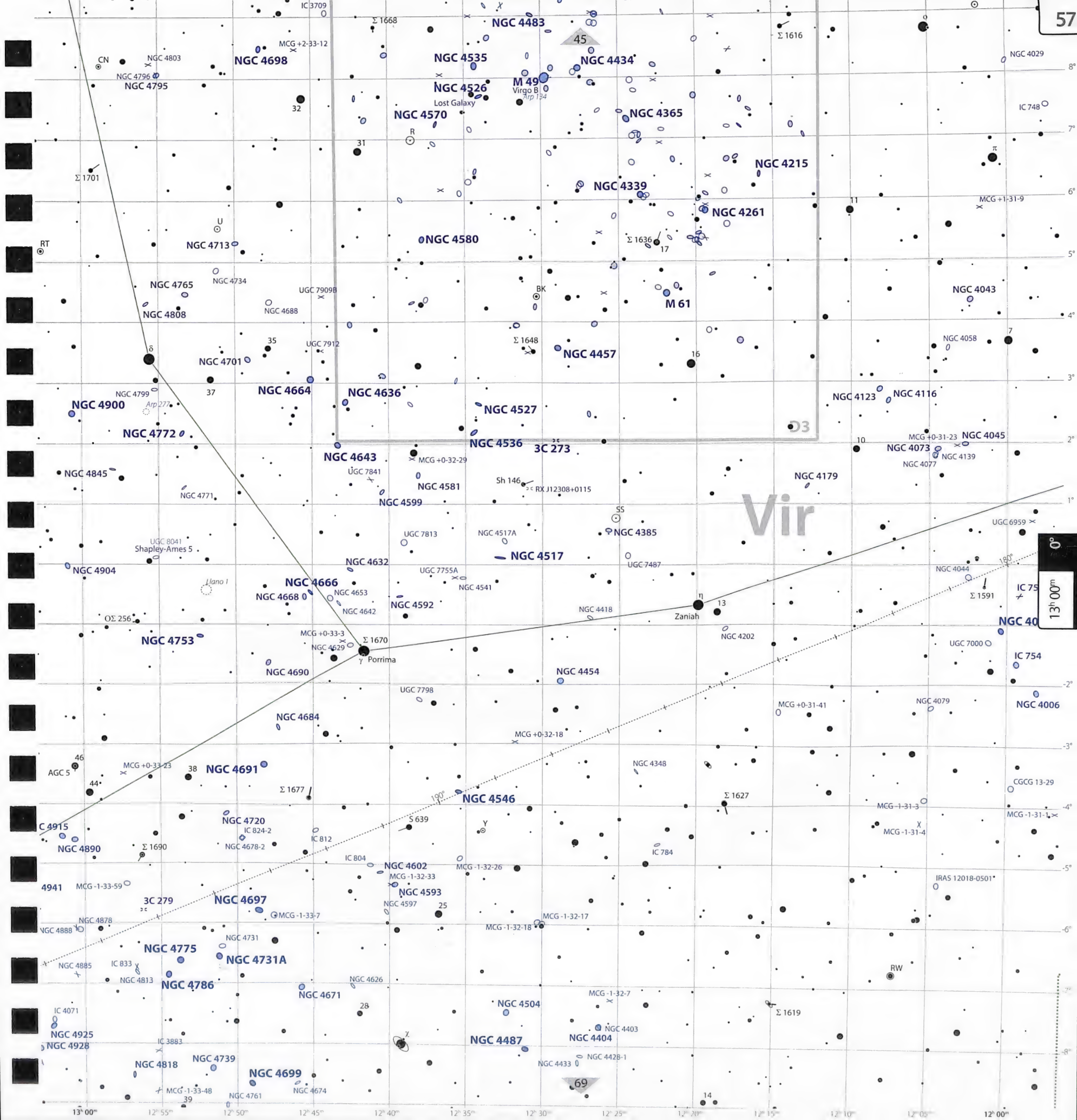






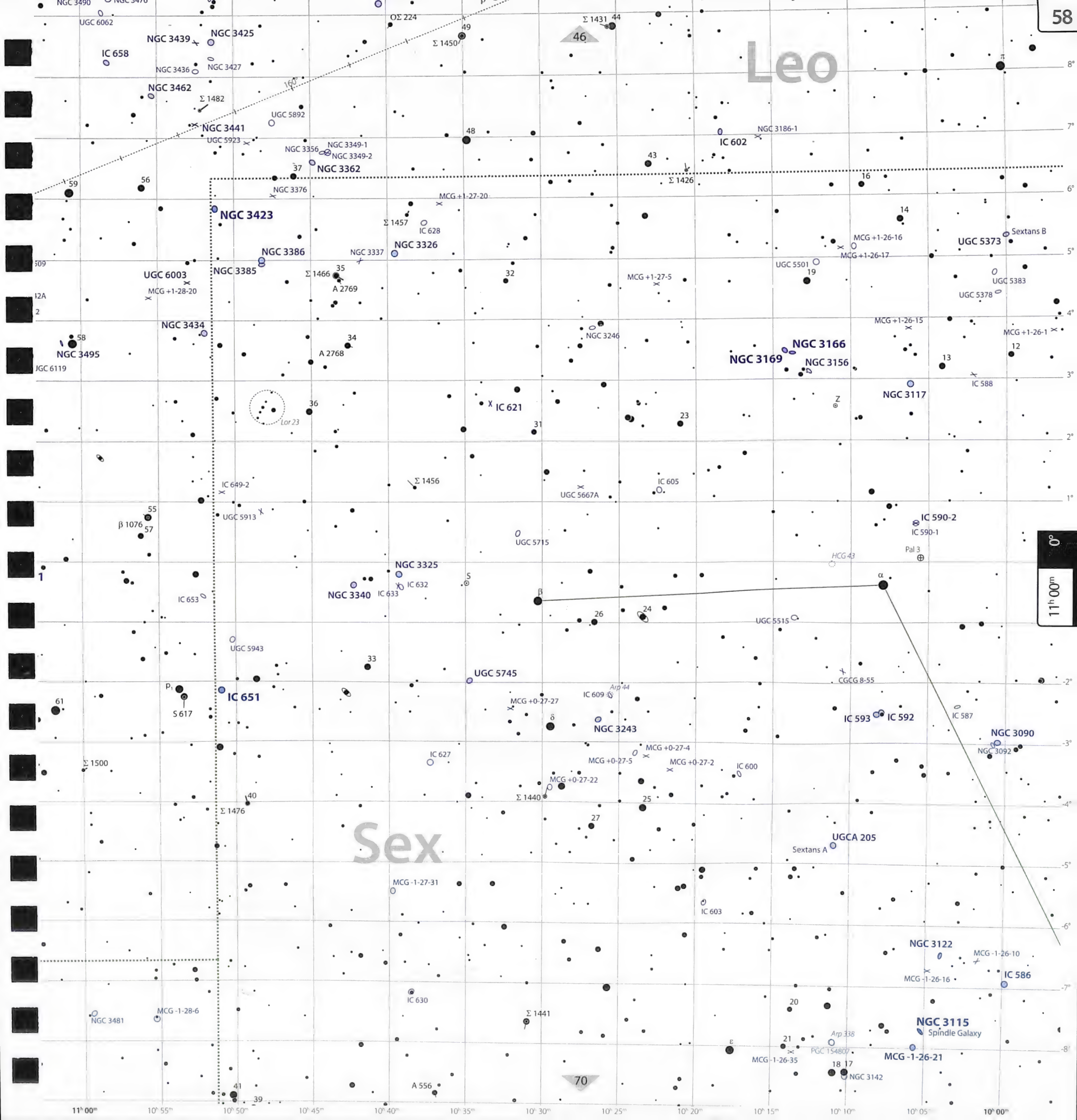












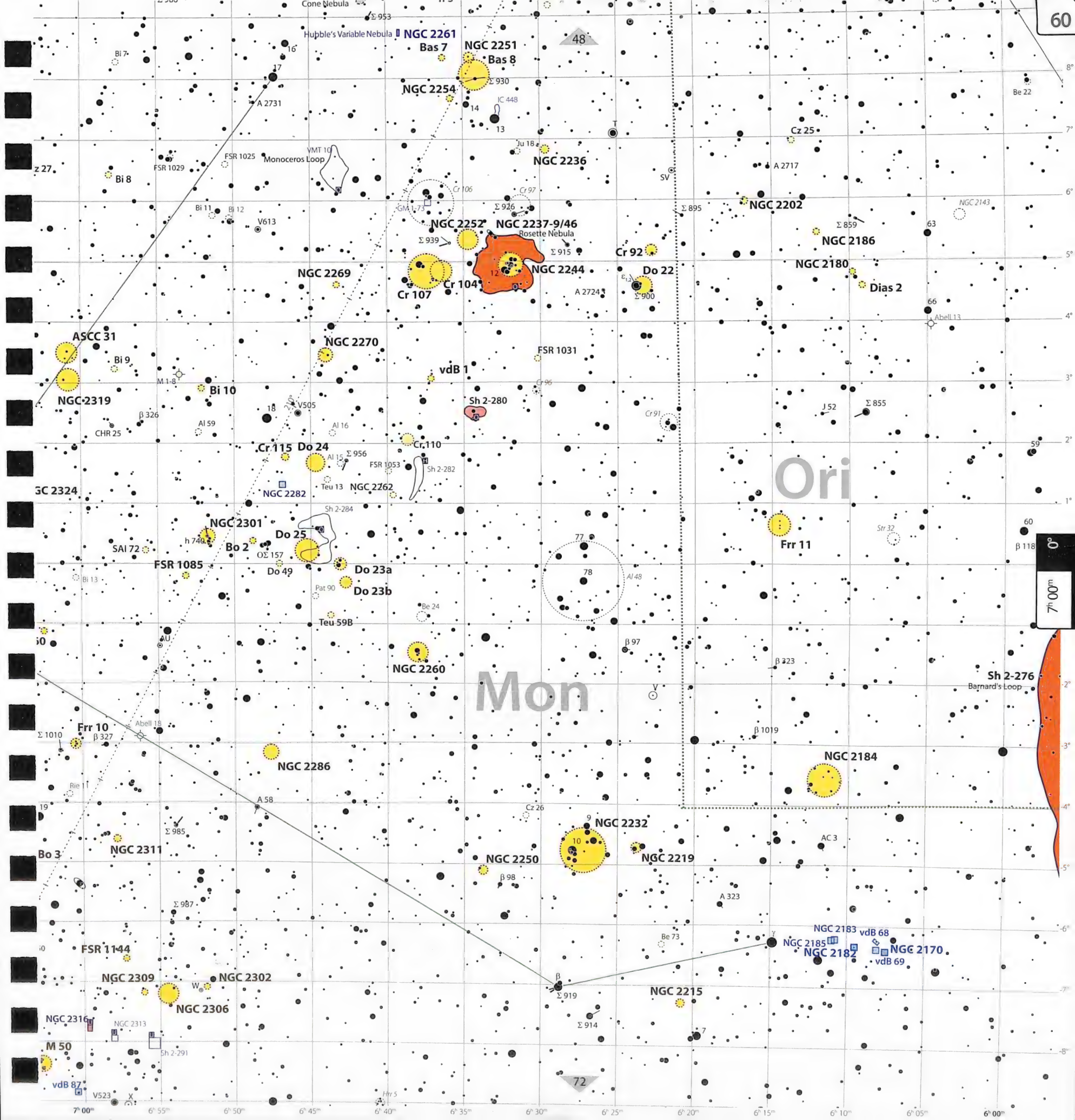




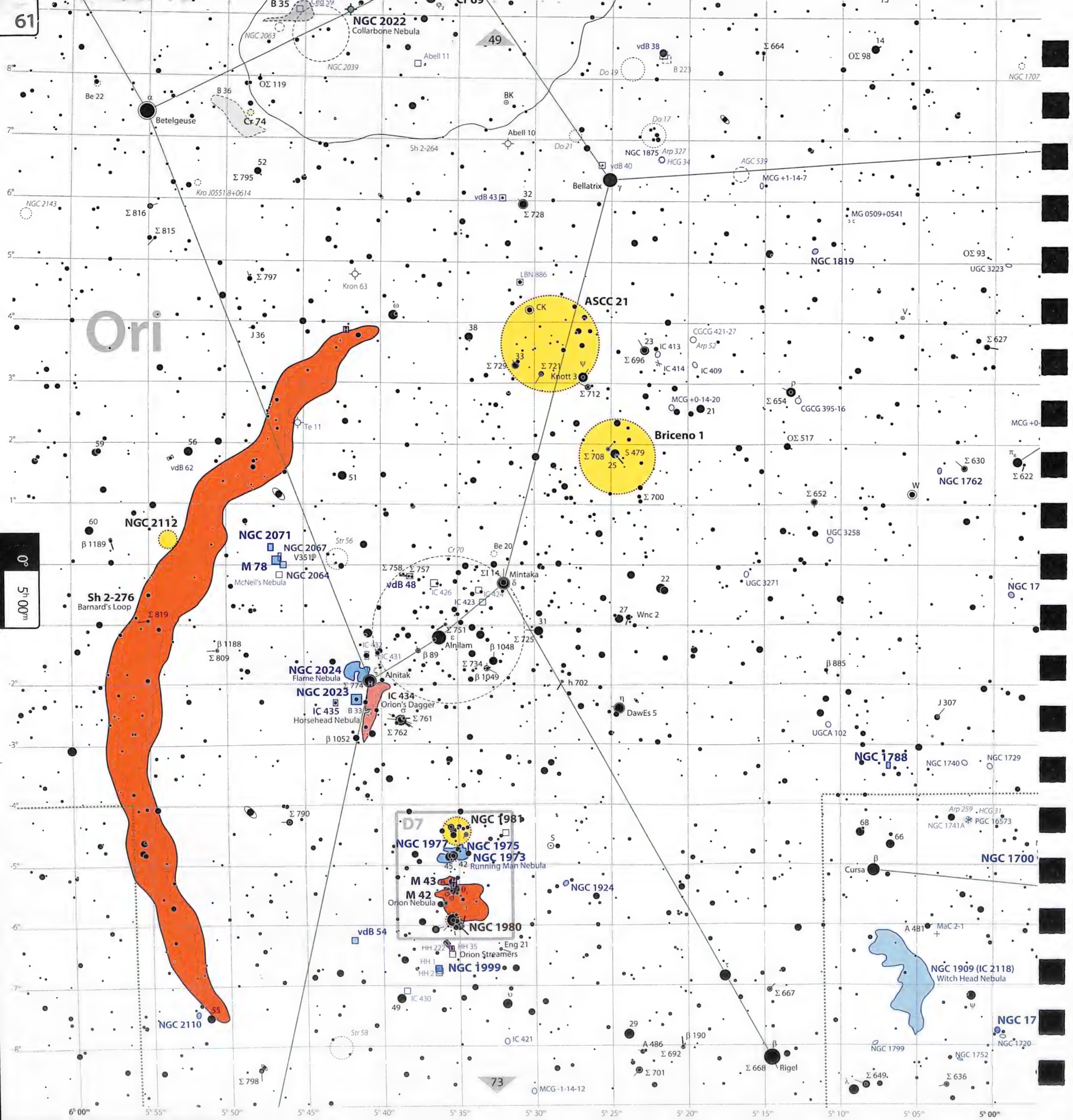




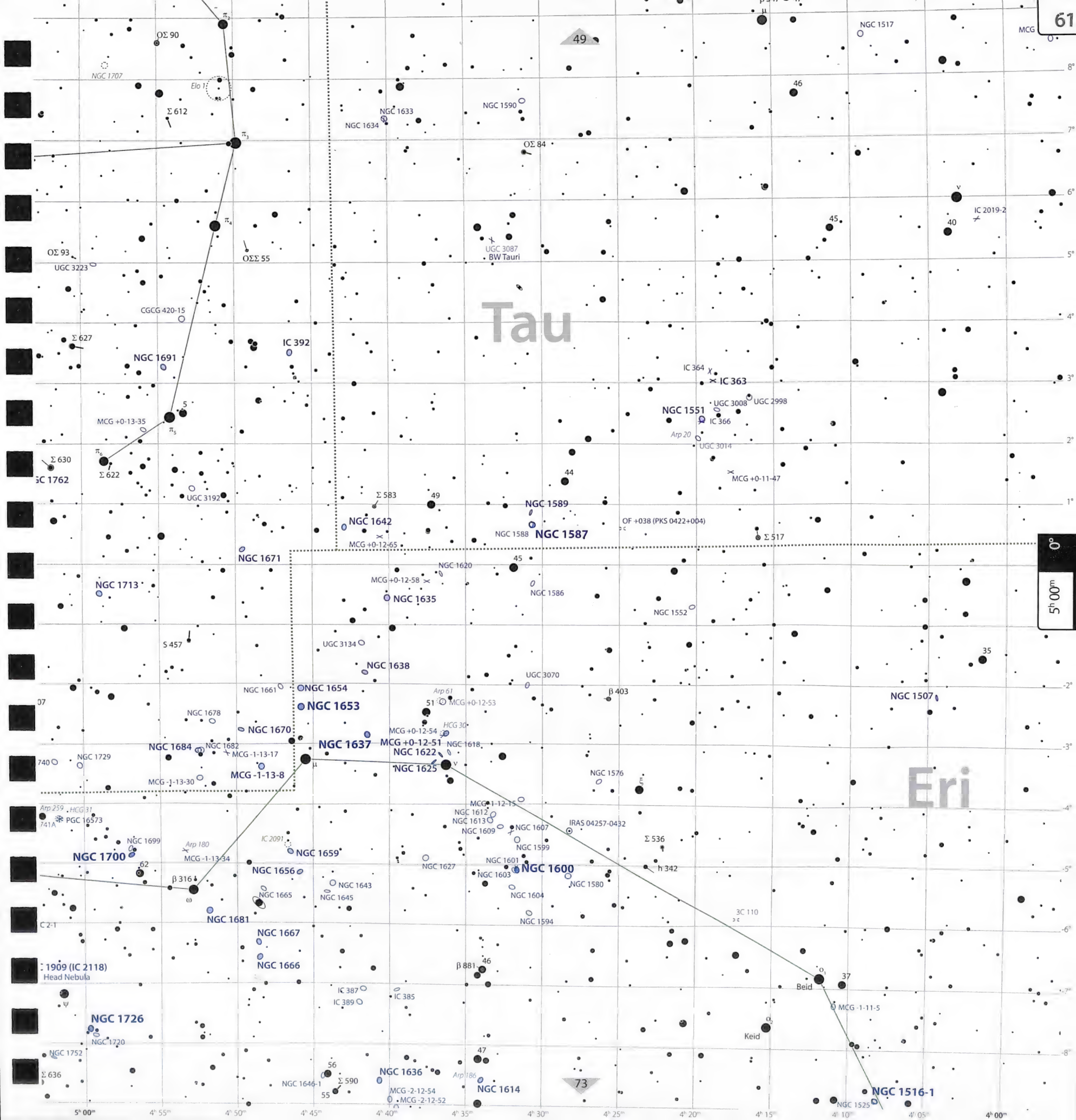






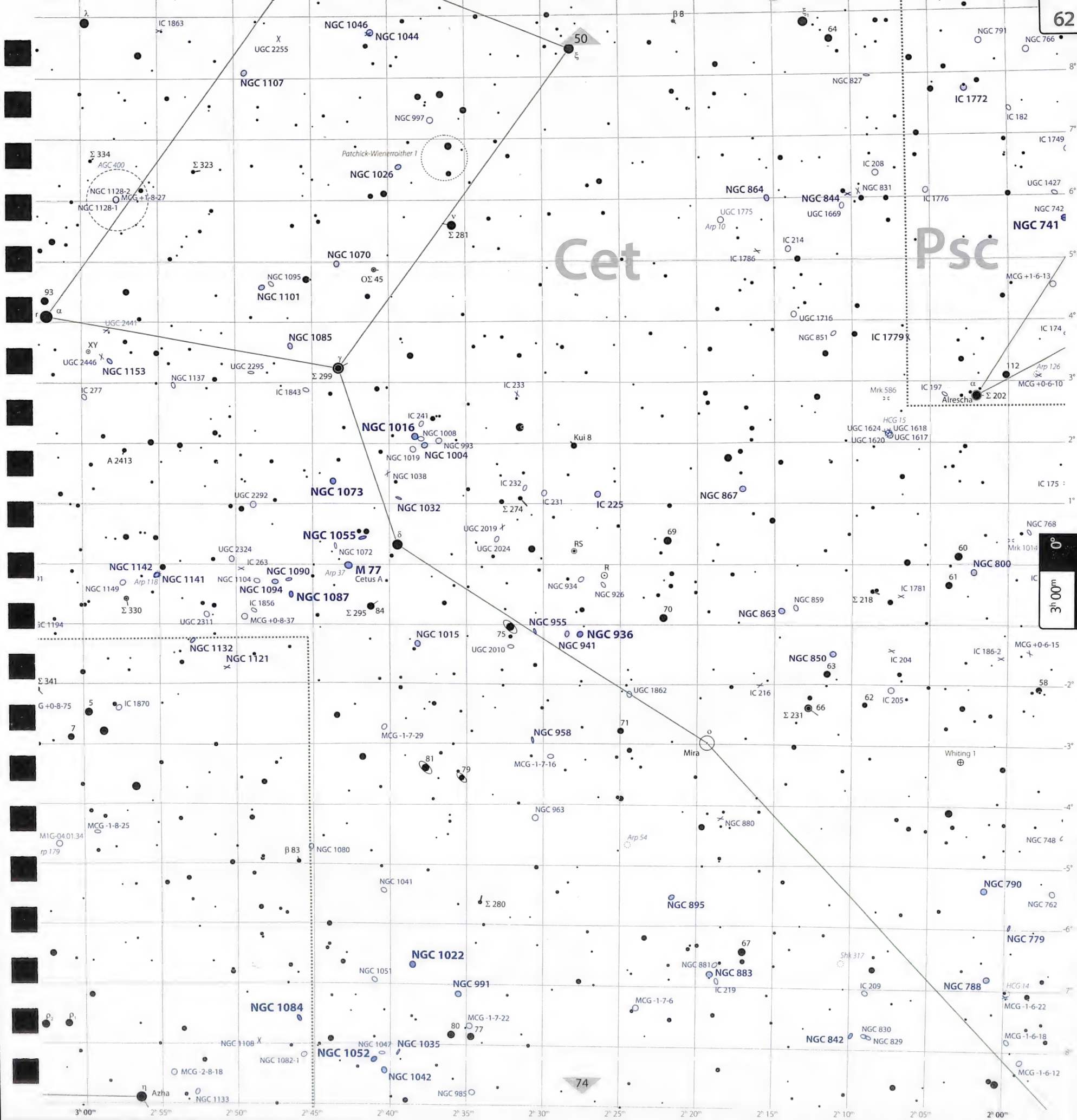


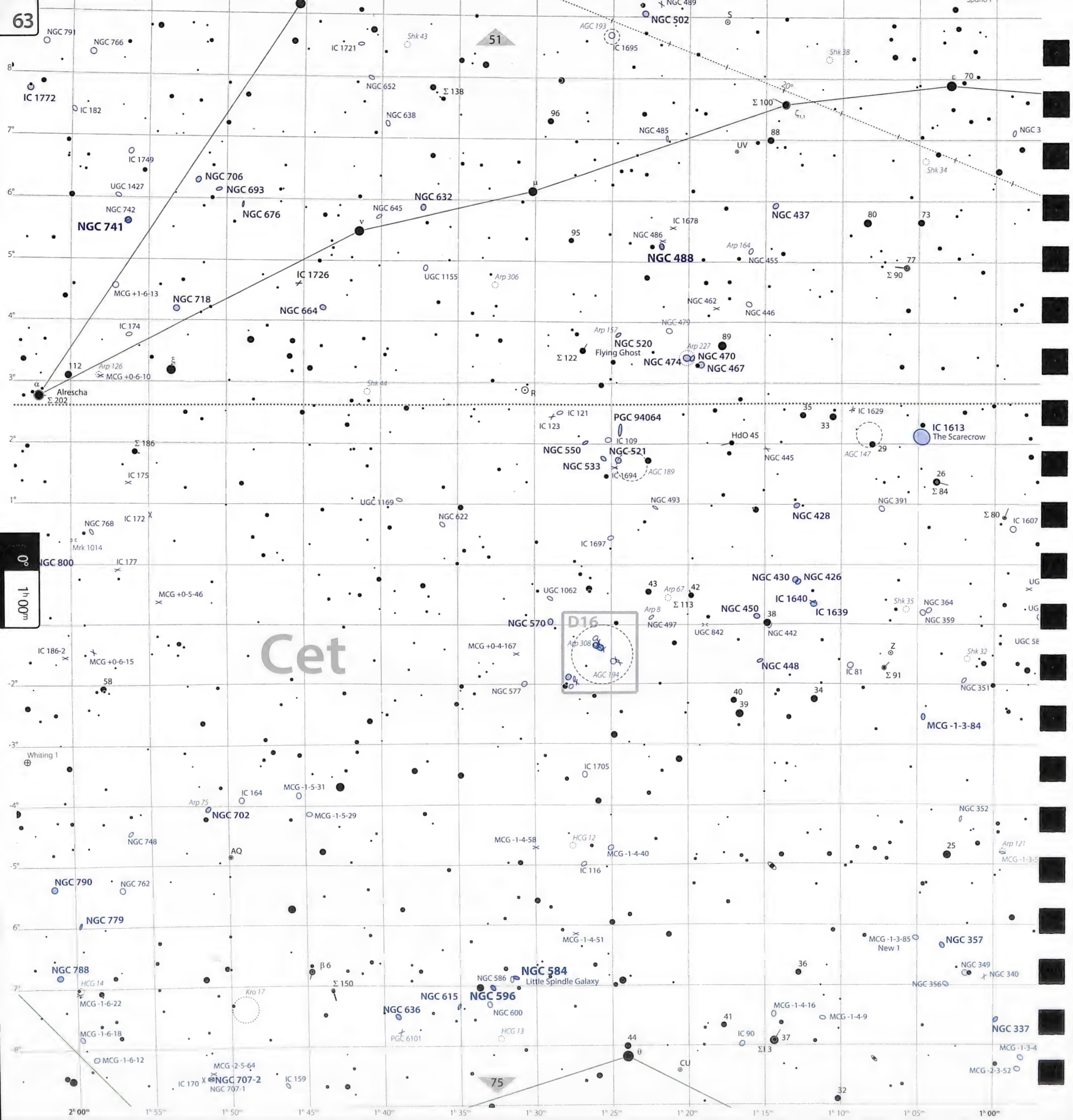




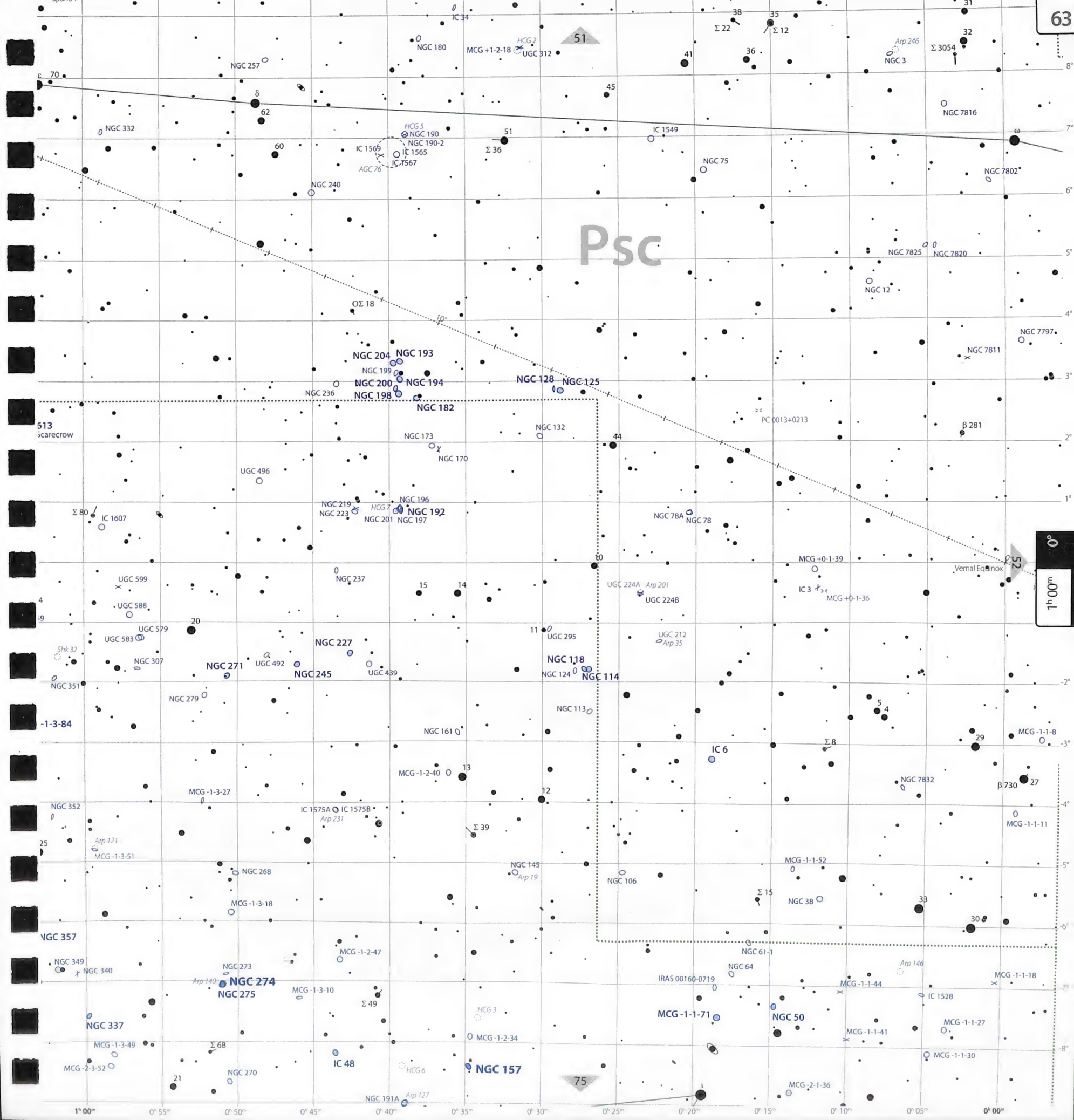


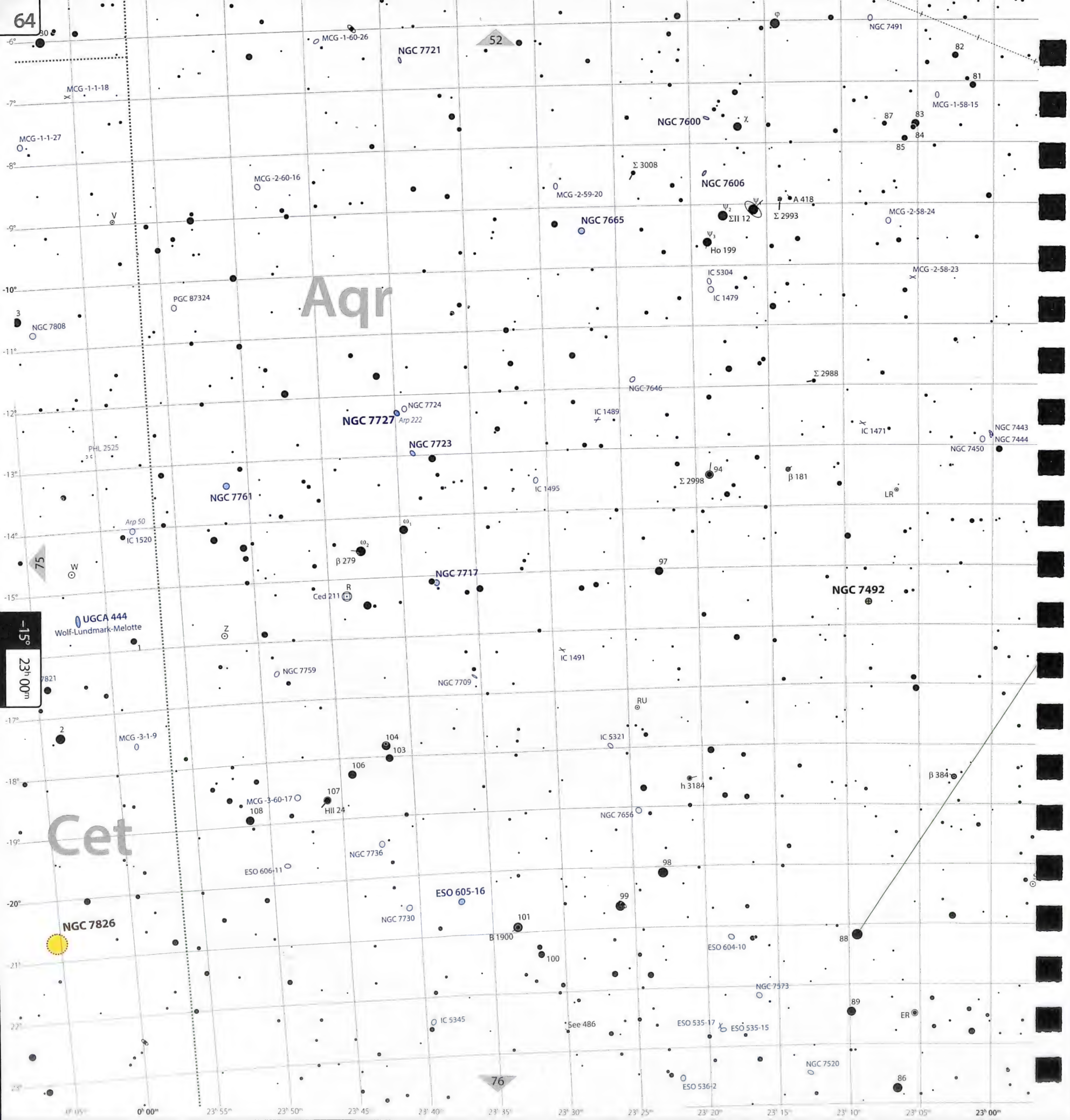




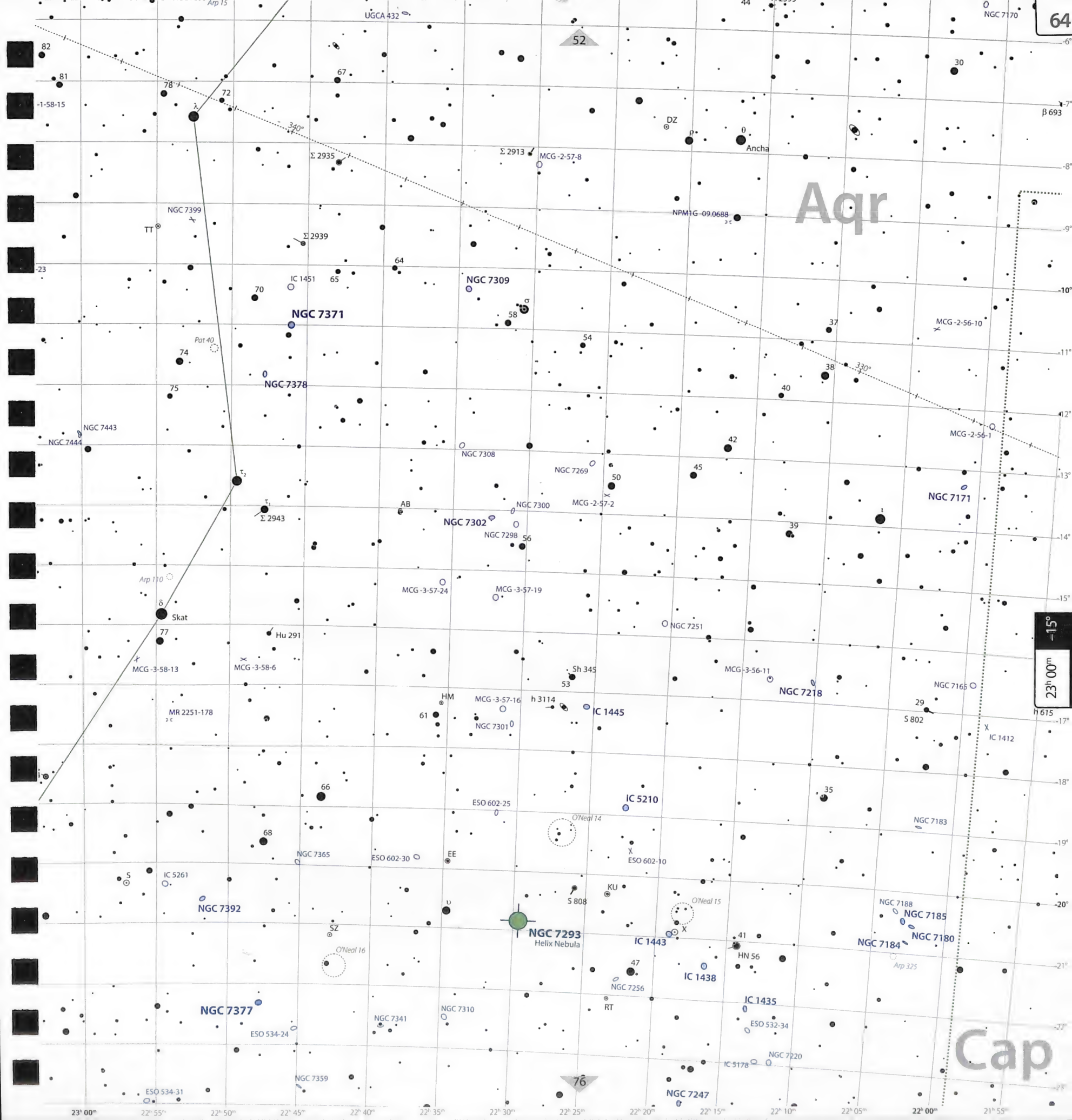


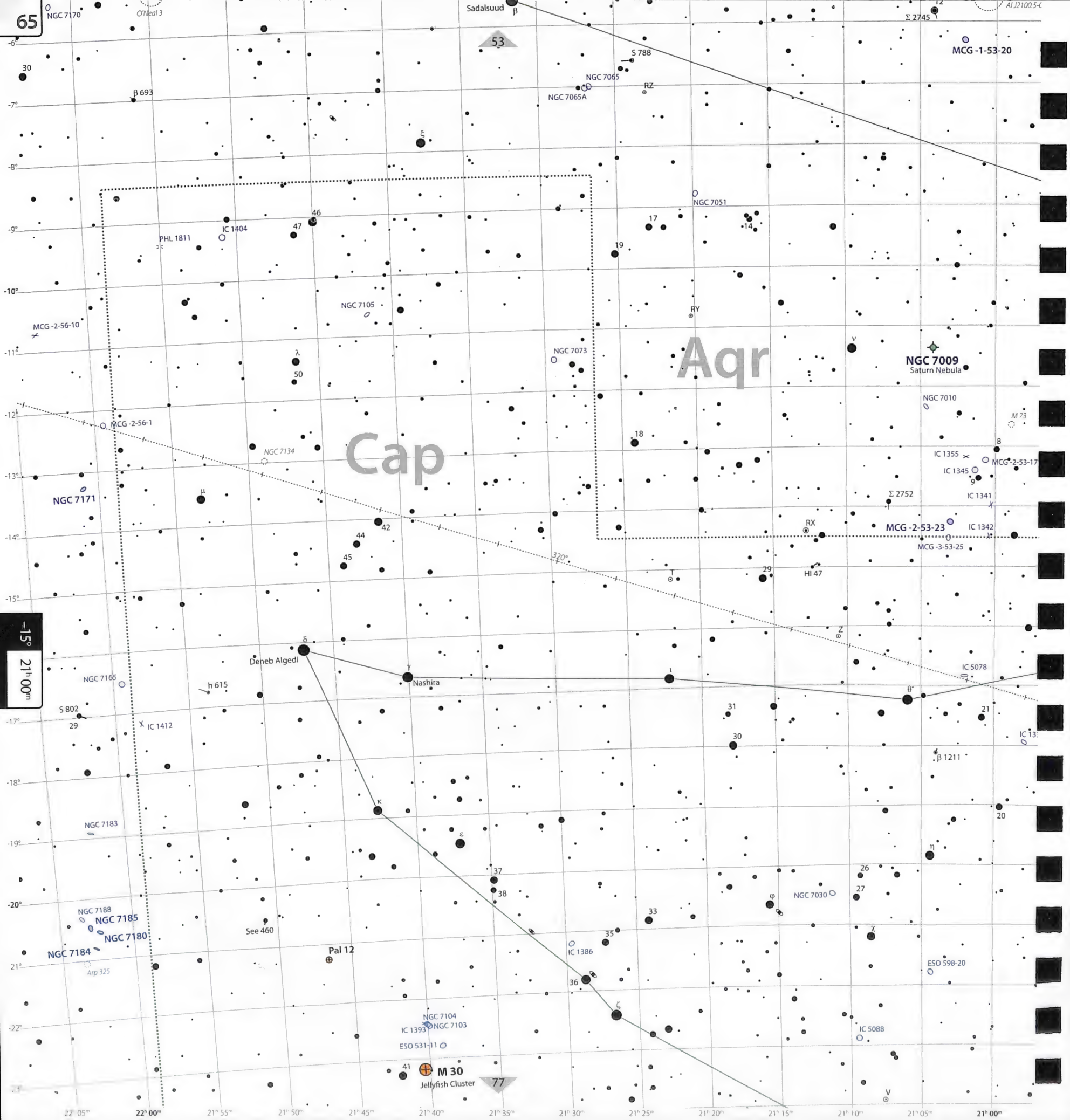




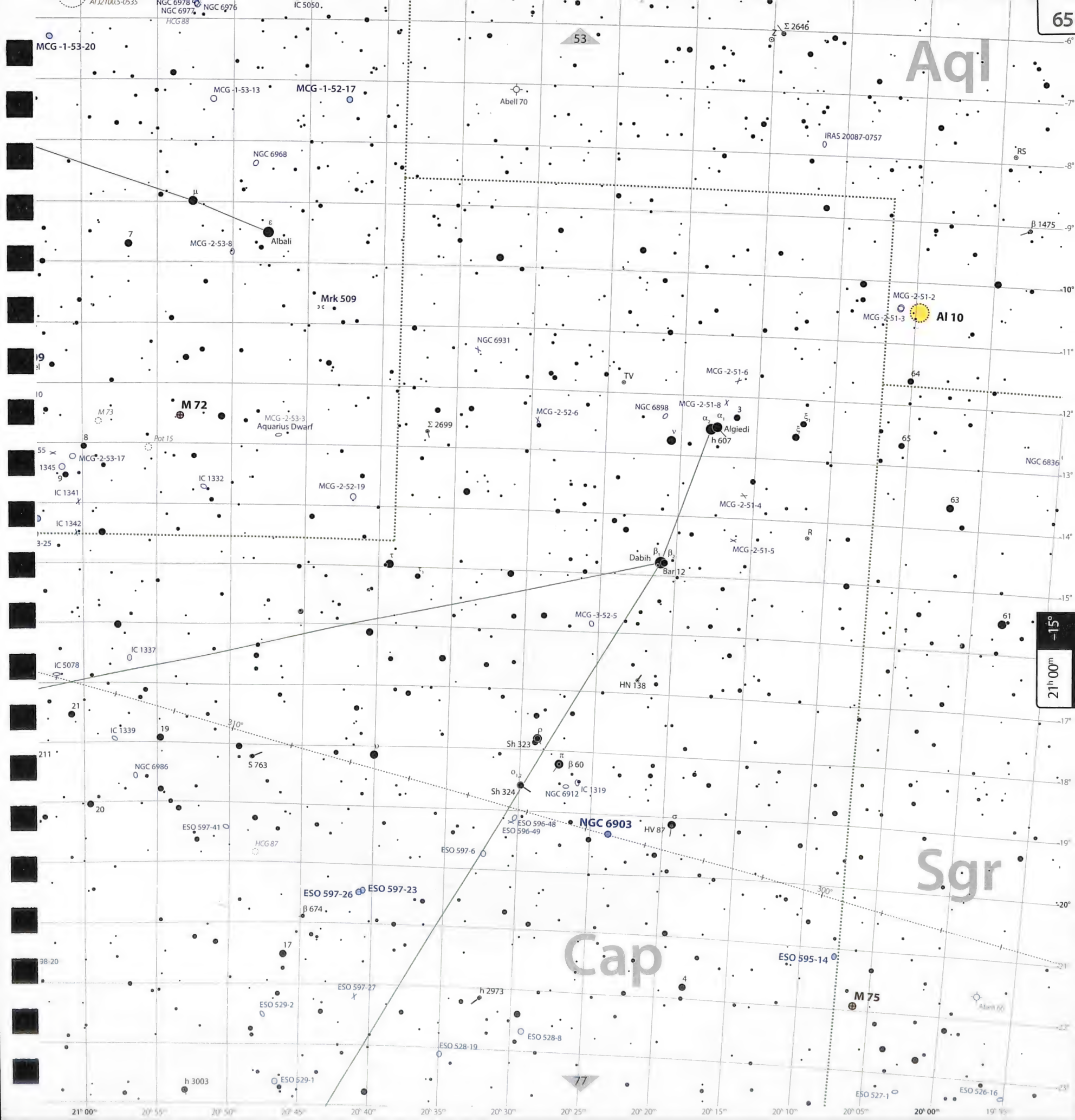












Aql

Sgr

Cap

21<sup>h</sup>00<sup>m</sup> -15°

19° 45'

53

77

MCG-1-53-20

MCG-1-53-13

MCG-1-52-17

Abell 70

IRAS 20087-0757

NGC 6968

MCG-2-53-8

Albali

Mrk 509

NGC 6931

TV

MCG-2-51-6

MCG-2-51-2

MCG-2-51-3

AI 10

M 72

MCG-2-53-3  
Aquarius Dwarf

MCG-2-52-6

NGC 6898

MCG-2-51-8

Algiedi

h 607

64

65

63

NGC 6836

Dabih

Bar 12

MCG-3-52-5

HN 138

Sh 323

Sh 324

π

β 60

NGC 6912

IC 1319

NGC 6903

HV 87

ESO 596-48

ESO 596-49

ESO 597-6

ESO 597-26

ESO 597-23

β 674

ESO 529-2

ESO 597-27

h 2973

ESO 528-19

ESO 528-8

ESO 595-14

M 75

ESO 527-1

ESO 526-16

h 3003

ESO 529-1

Abell 60

19

10

55

IC 1341

IC 1342

3-25

IC 5078

211

20

98-20

21<sup>h</sup>00<sup>m</sup> 20<sup>h</sup>55<sup>m</sup> 20<sup>h</sup>50<sup>m</sup> 20<sup>h</sup>45<sup>m</sup> 20<sup>h</sup>40<sup>m</sup> 20<sup>h</sup>35<sup>m</sup> 20<sup>h</sup>30<sup>m</sup> 20<sup>h</sup>25<sup>m</sup> 20<sup>h</sup>20<sup>m</sup> 20<sup>h</sup>15<sup>m</sup> 20<sup>h</sup>10<sup>m</sup> 20<sup>h</sup>05<sup>m</sup> 20<sup>h</sup>00<sup>m</sup> 19<sup>h</sup>55<sup>m</sup>

-15°

-17°

-18°

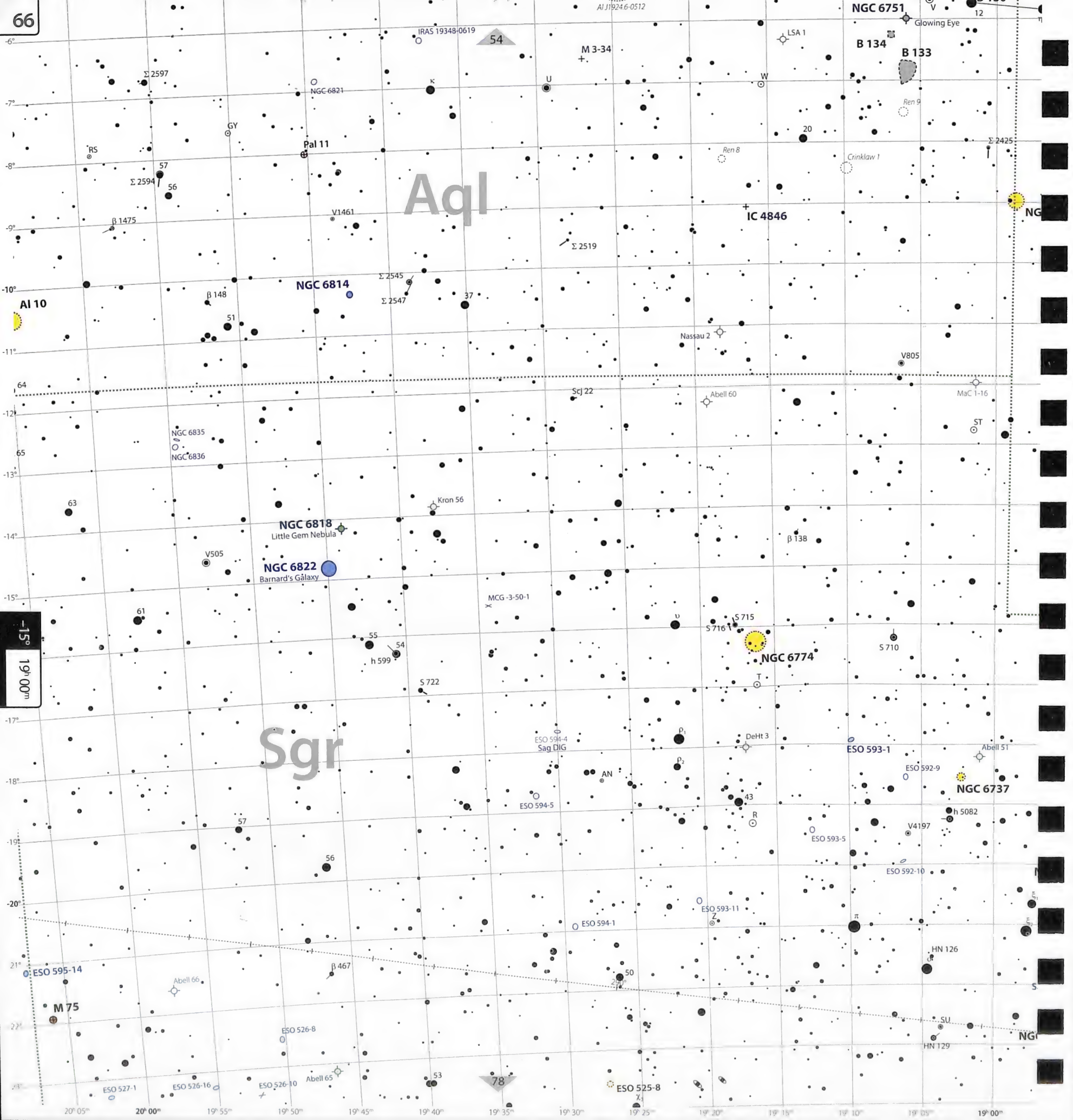
-19°

-20°

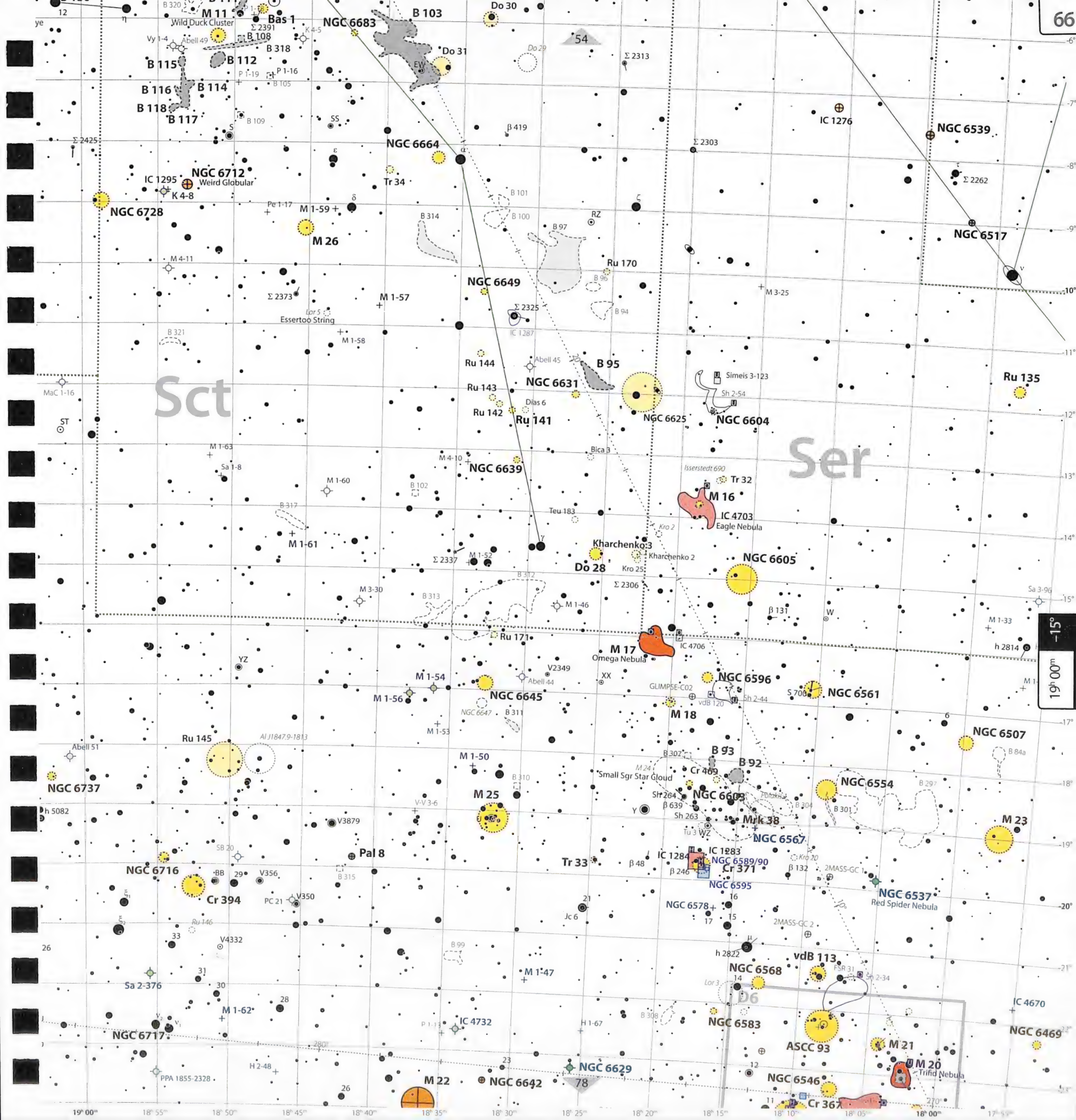
-21°

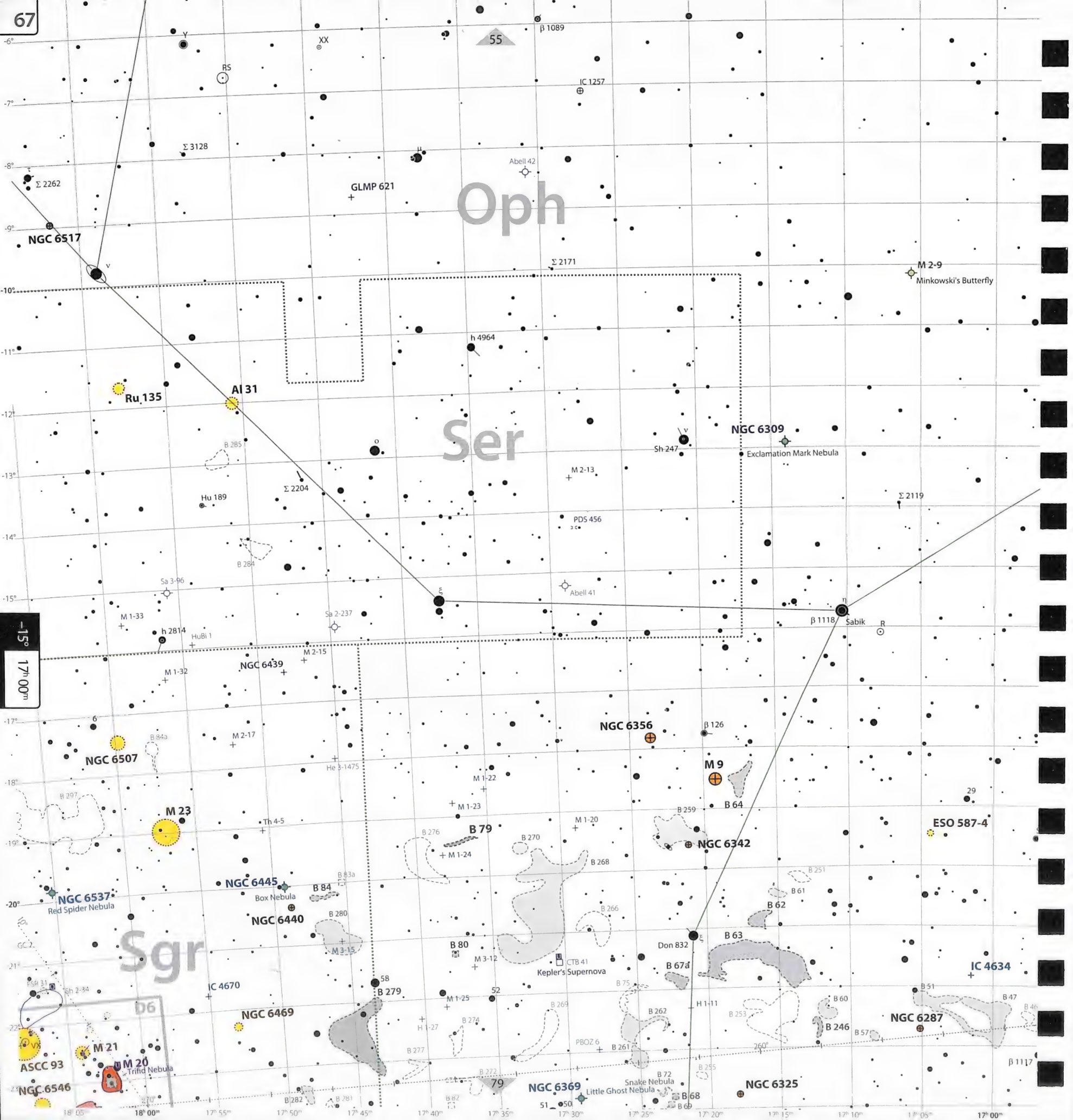
-22°

-23°

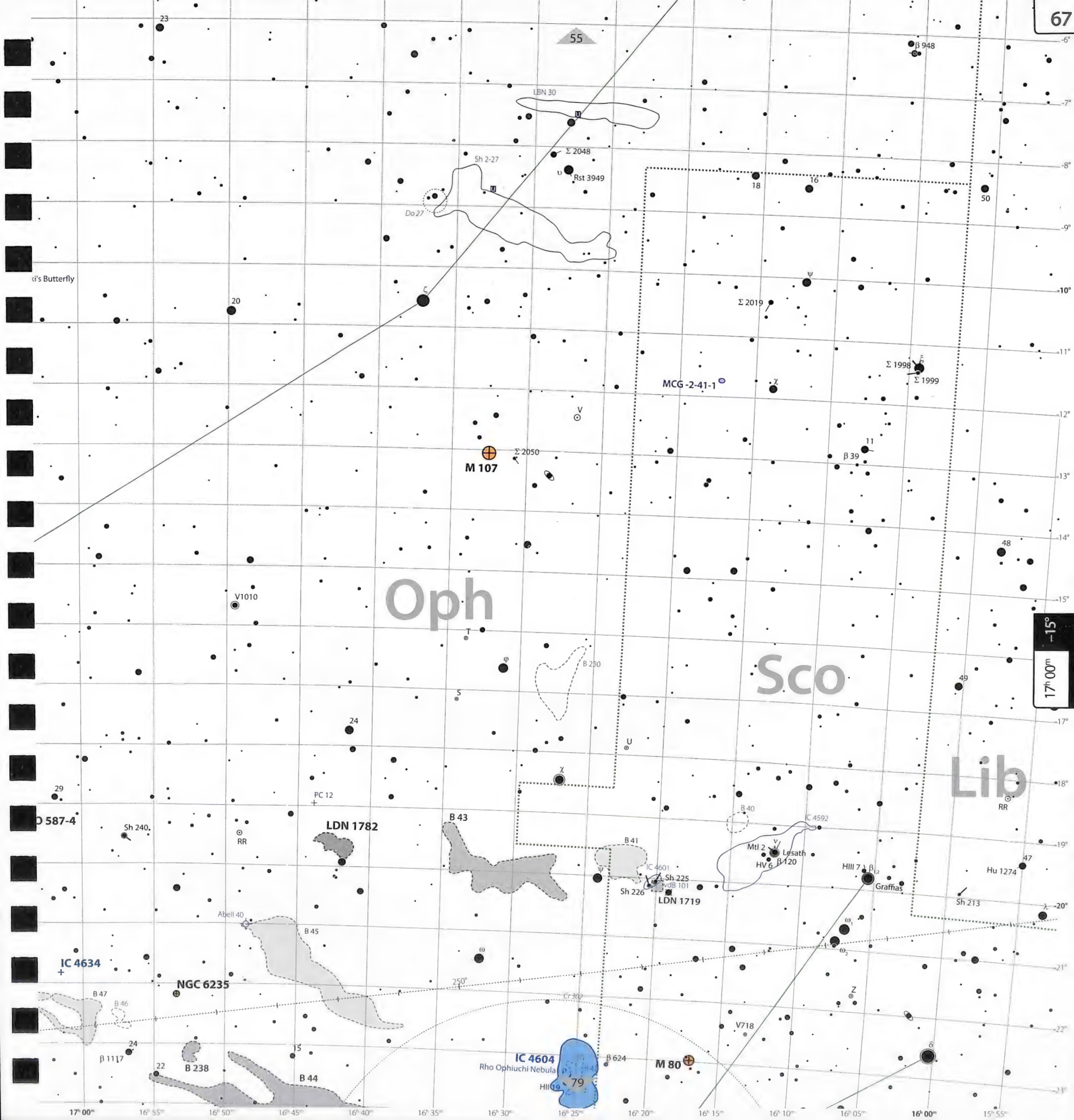


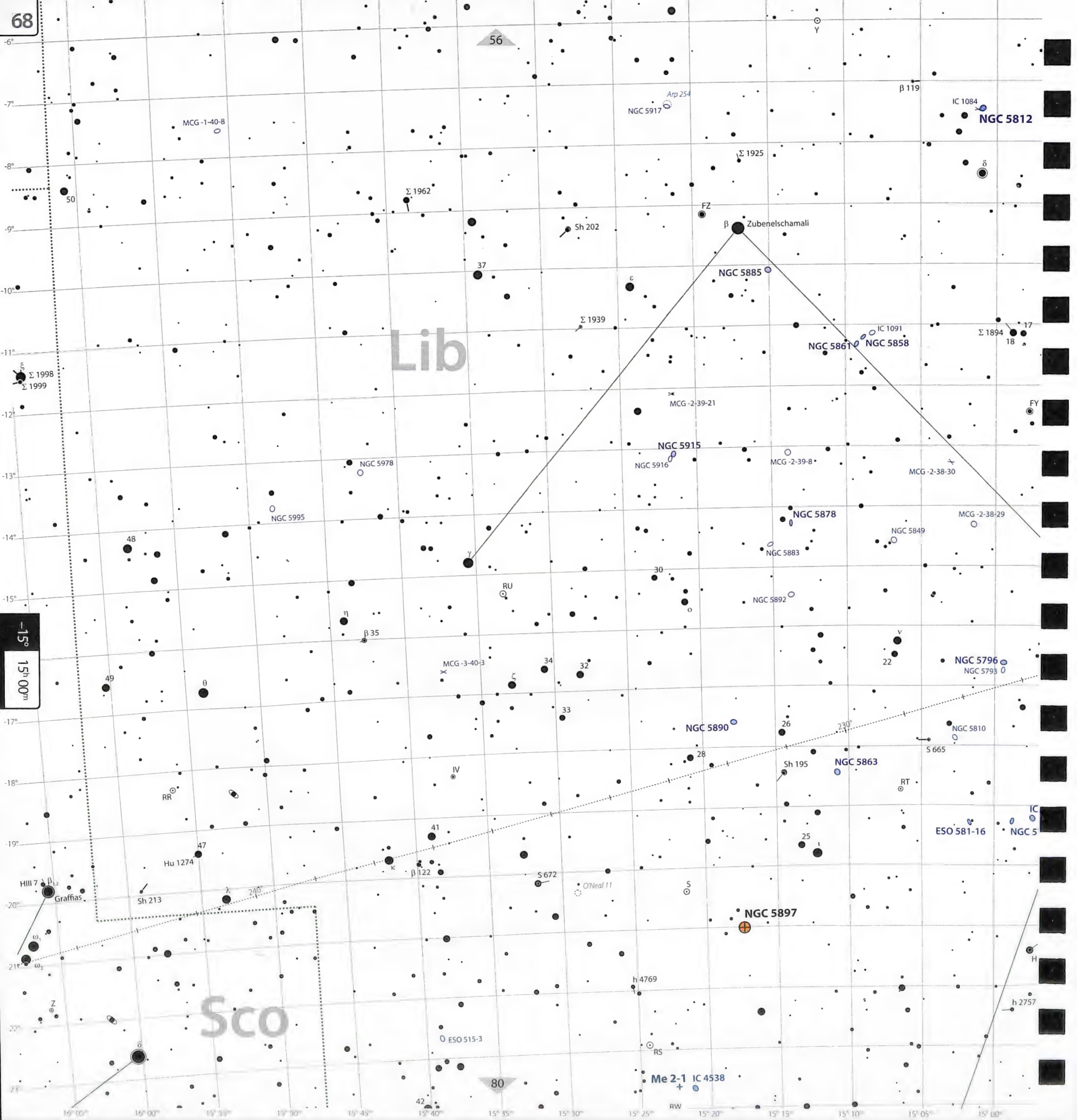












-15°  
15h 00m

Sco

Lib

56

80

Hill 7  
Grafias  
ω<sub>1</sub>  
ω<sub>2</sub>  
ω<sub>3</sub>  
Z  
δ

16° 05' 16° 00' 15° 55' 15° 50' 15° 45' 15° 40' 15° 35' 15° 30' 15° 25' 15° 20' 15° 15' 15° 10' 15° 05' 15° 00'

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-15°

MCG-1-40-8

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Σ 1998  
Σ 1999

48

49

Hu 1274

Sh 213

ESO 515-3

42

Σ 1962

37

NGC 5978

NGC 5995

β 35

MCG-3-40-3

IV

RR

κ

β 122

S 672

h 4769

NGC 5917

Sh 202

Σ 1939

NGC 5916

NGC 5915

NGC 5883

NGC 5892

NGC 5890

NGC 5863

NGC 5897

Me 2-1 IC 4538

h 2757

NGC 5812

IC 1084

Σ 1925

FZ

β Zubenelschamali

NGC 5885

IC 1091

NGC 5858

Σ 1894

17

18

FY

MCG-2-39-21

MCG-2-39-8

MCG-2-38-30

MCG-2-38-29

NGC 5849

NGC 5796

NGC 5793

NGC 5810

S 665

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ESO 581-16

IC 5

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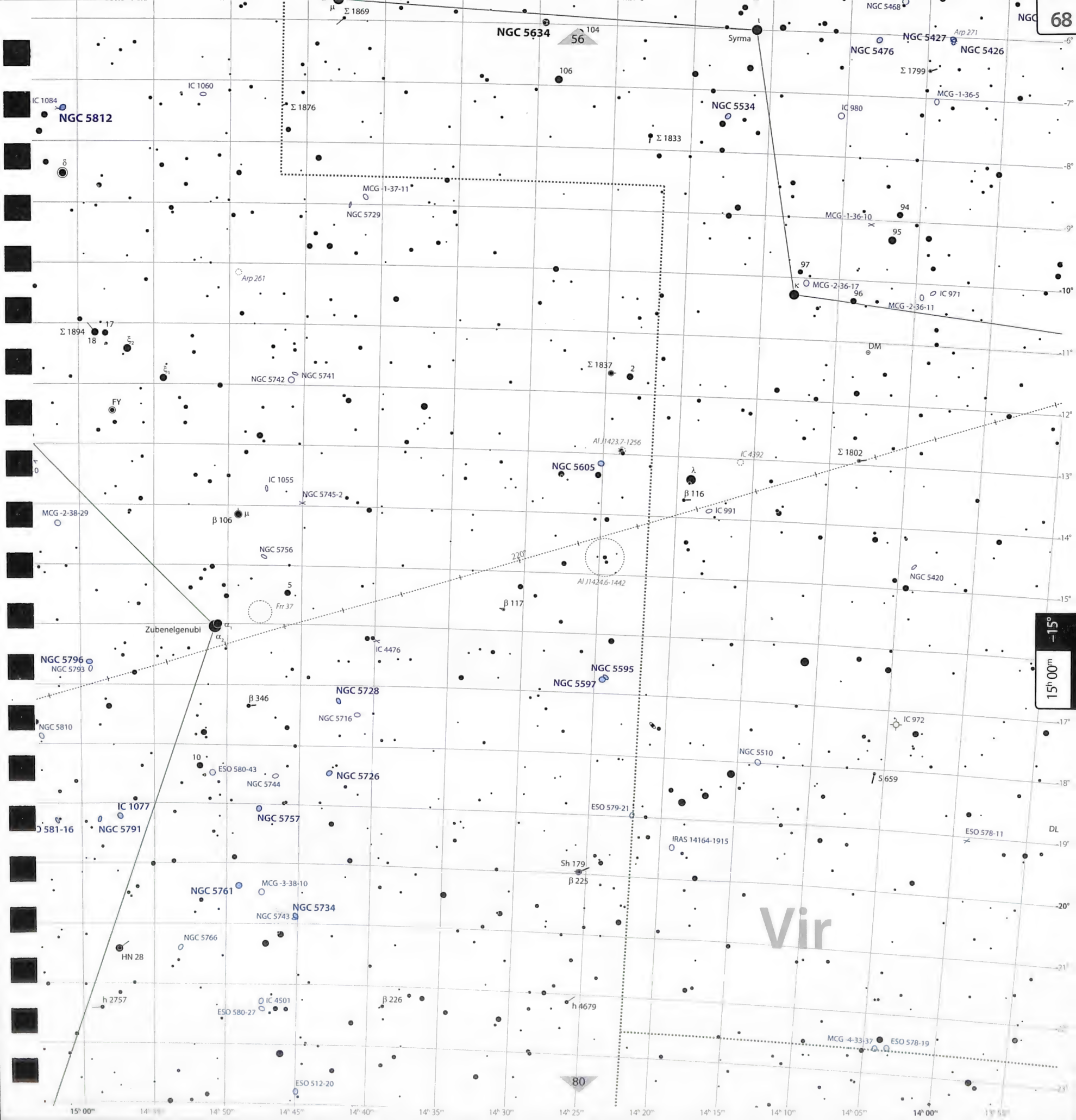
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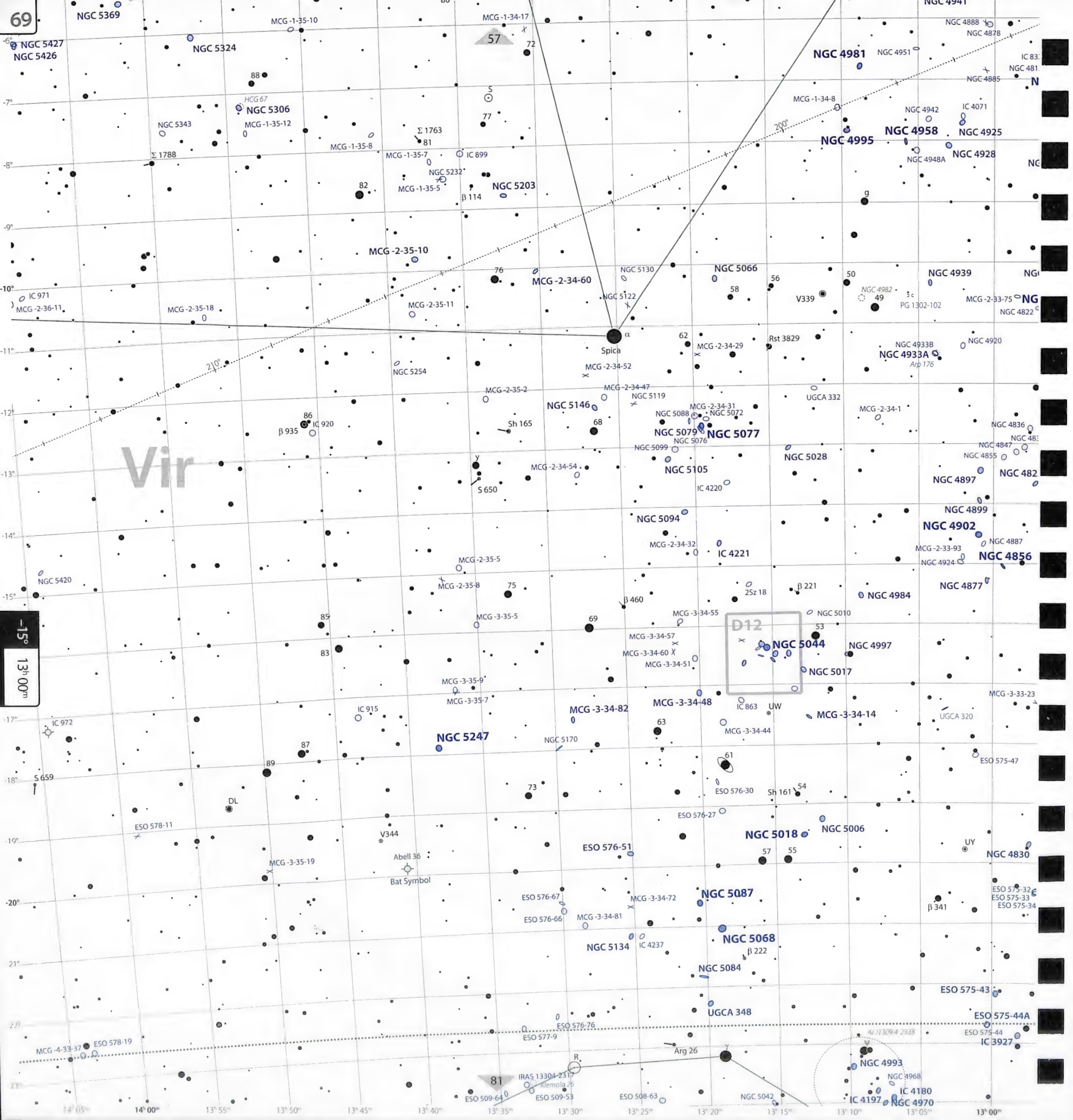
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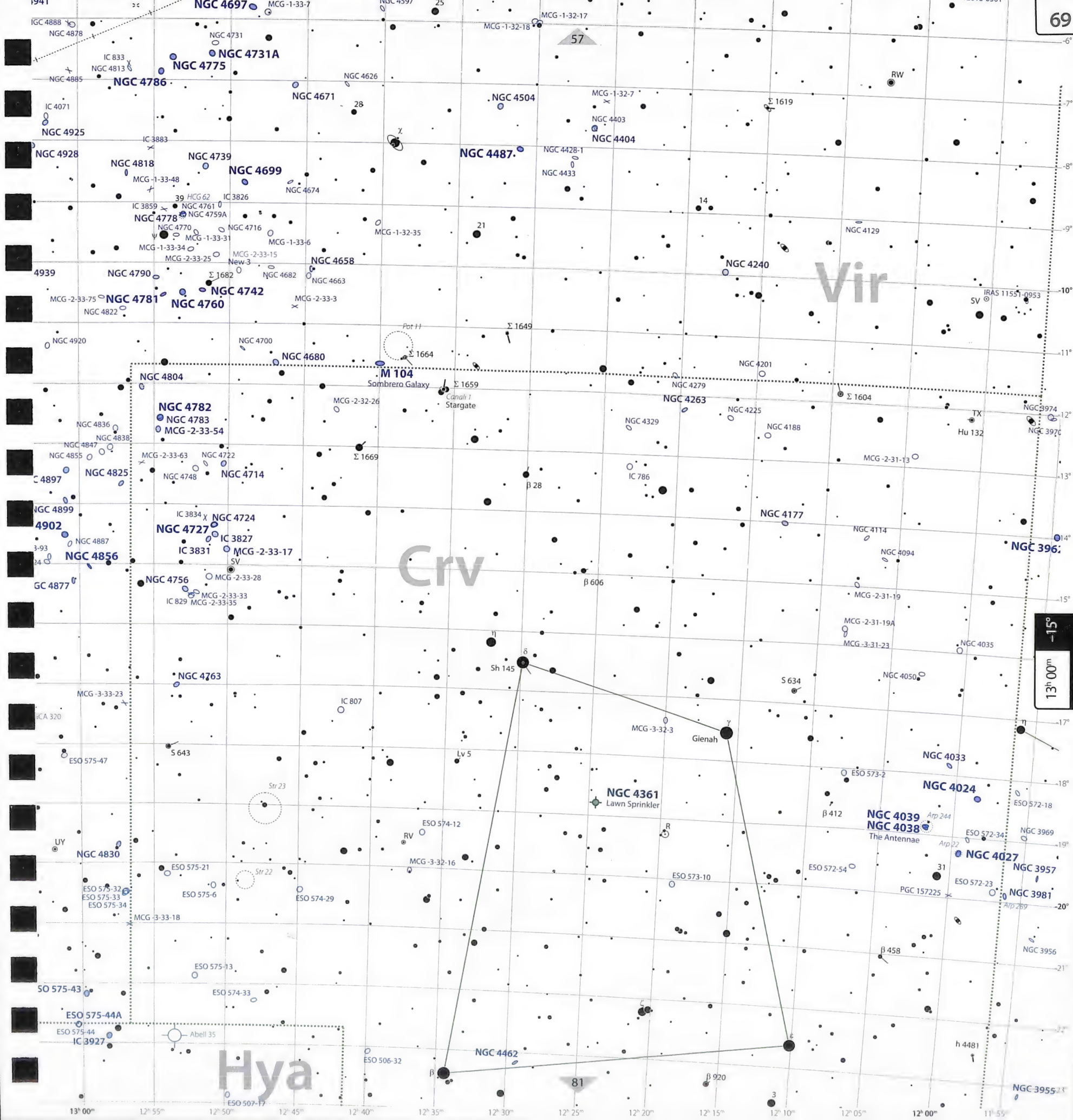
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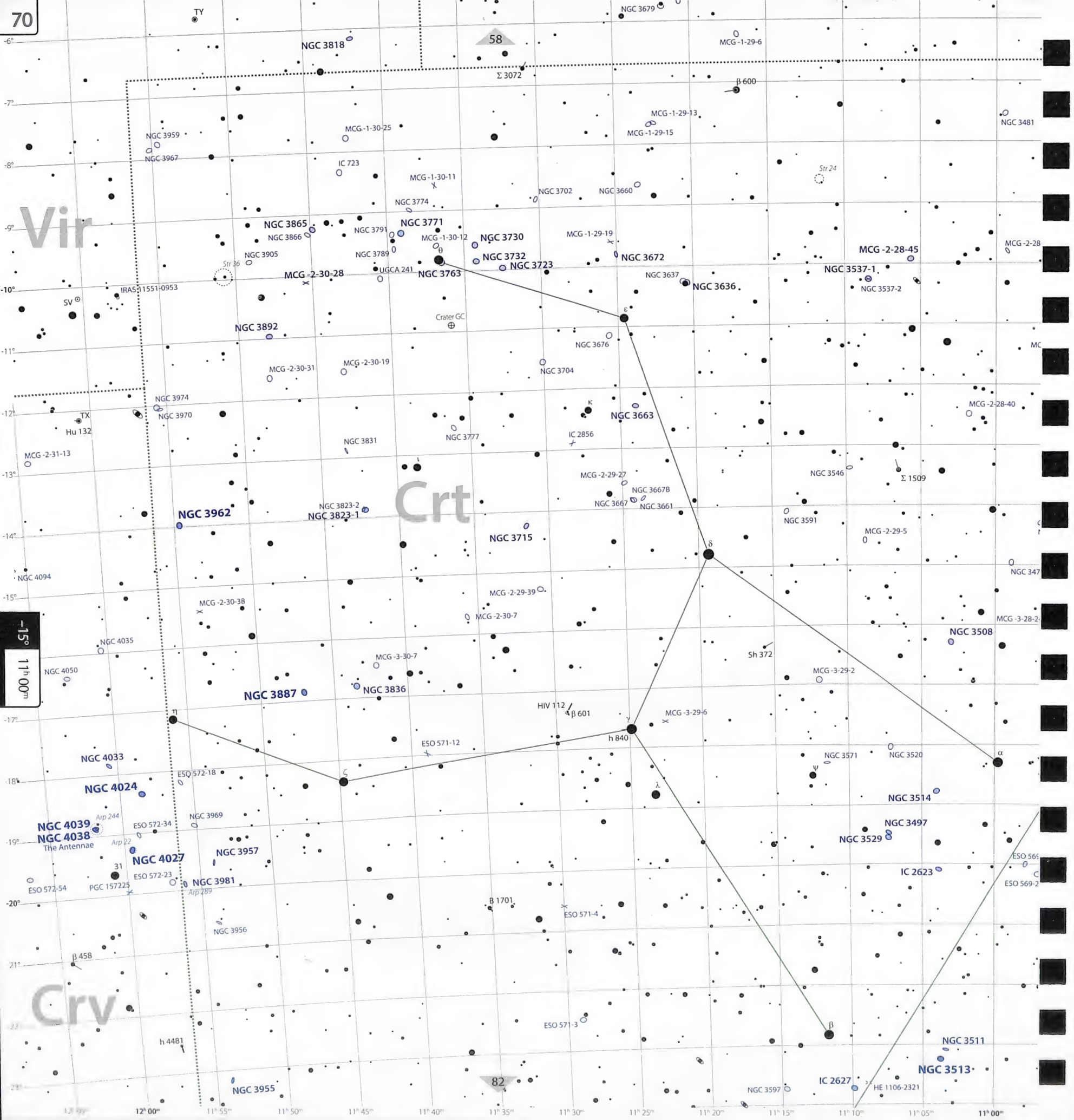




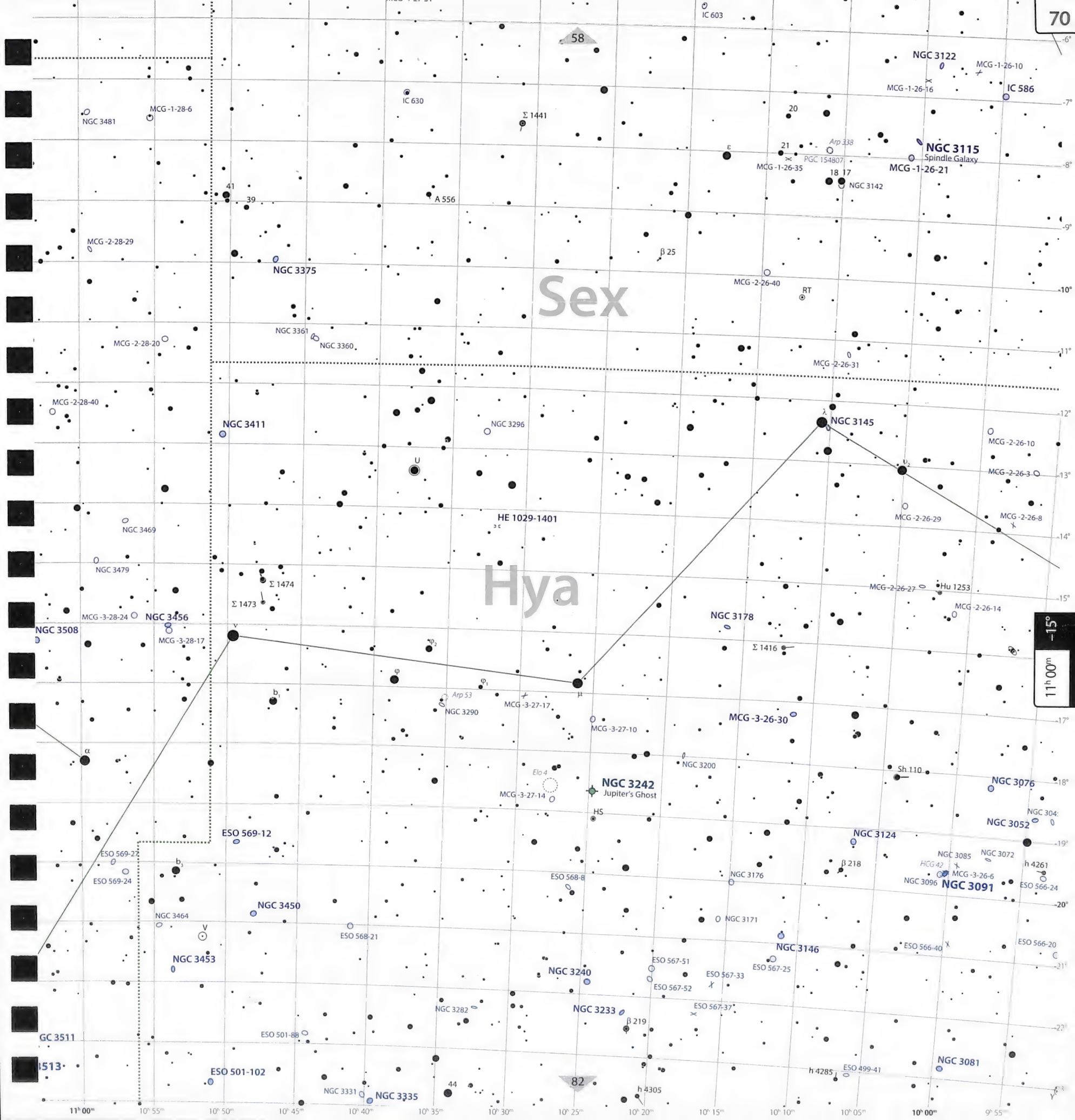






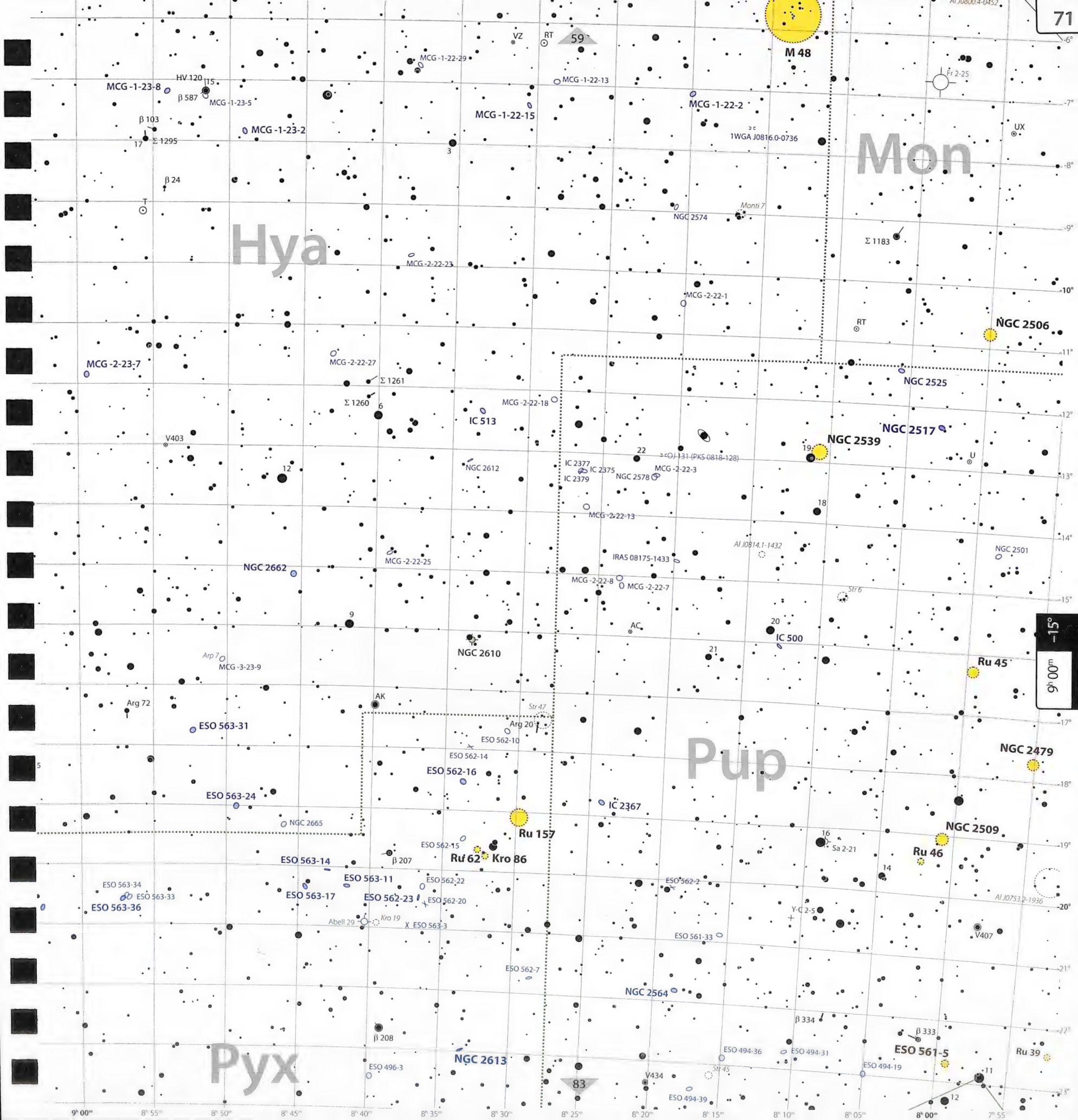






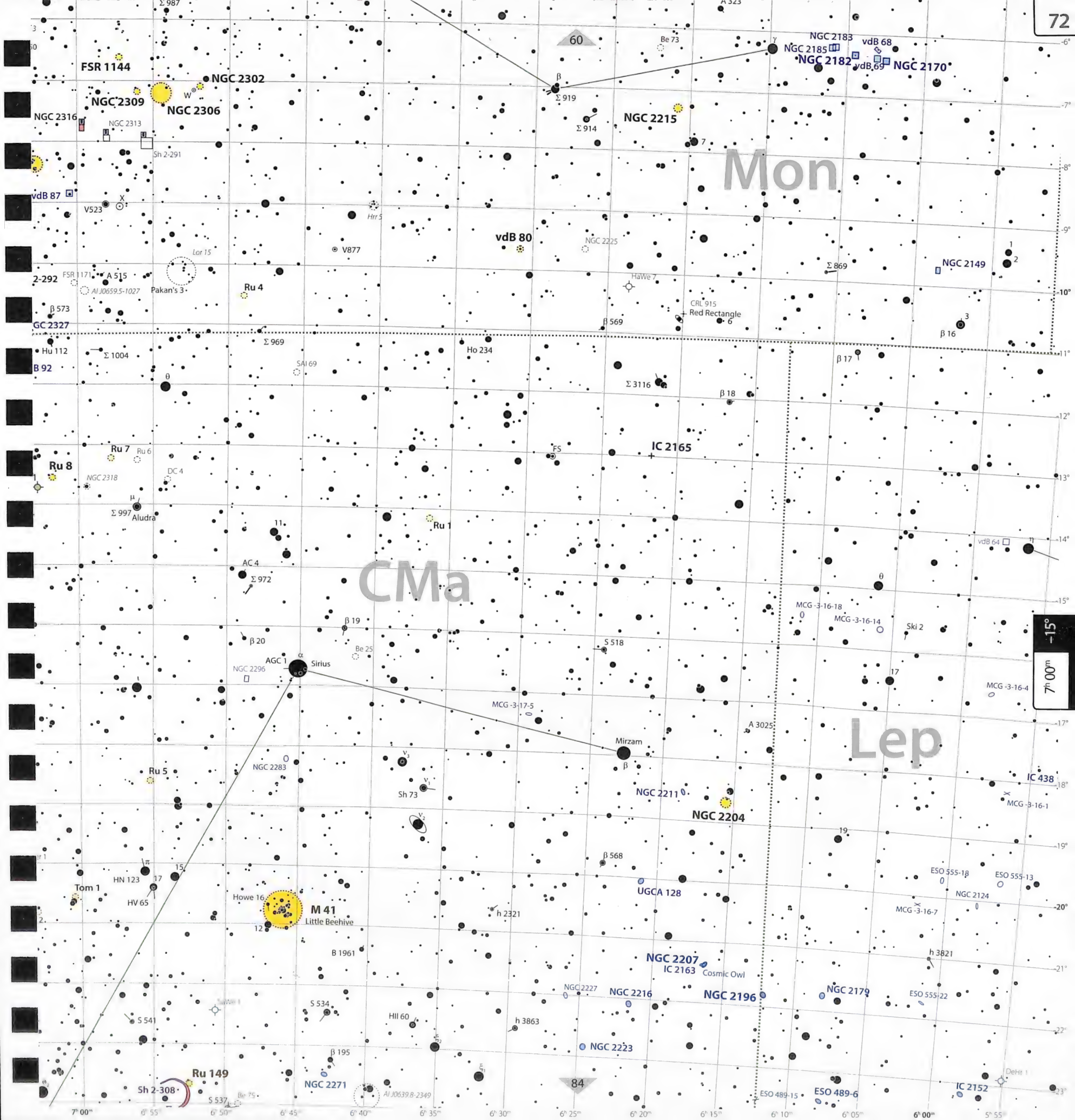


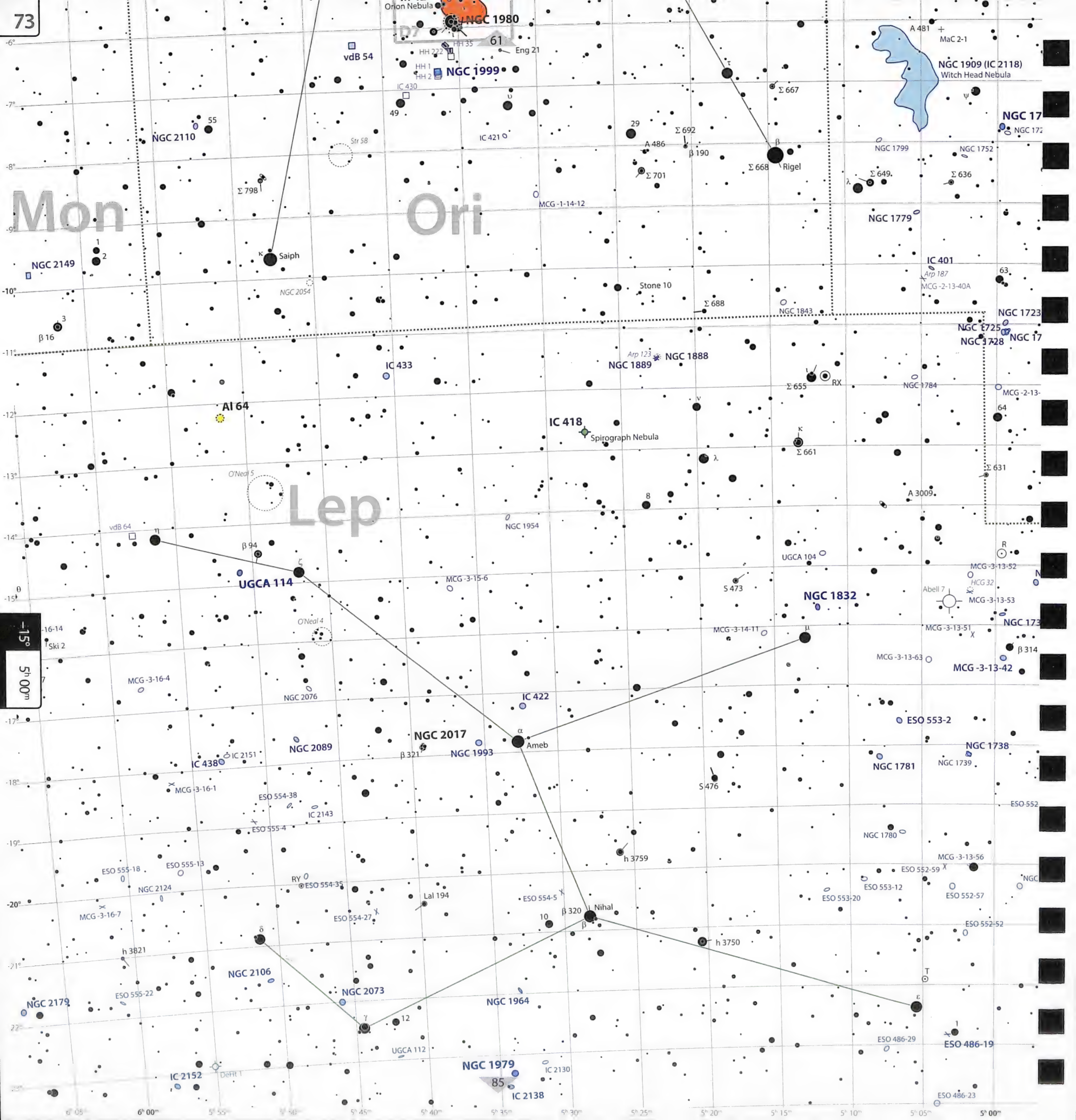




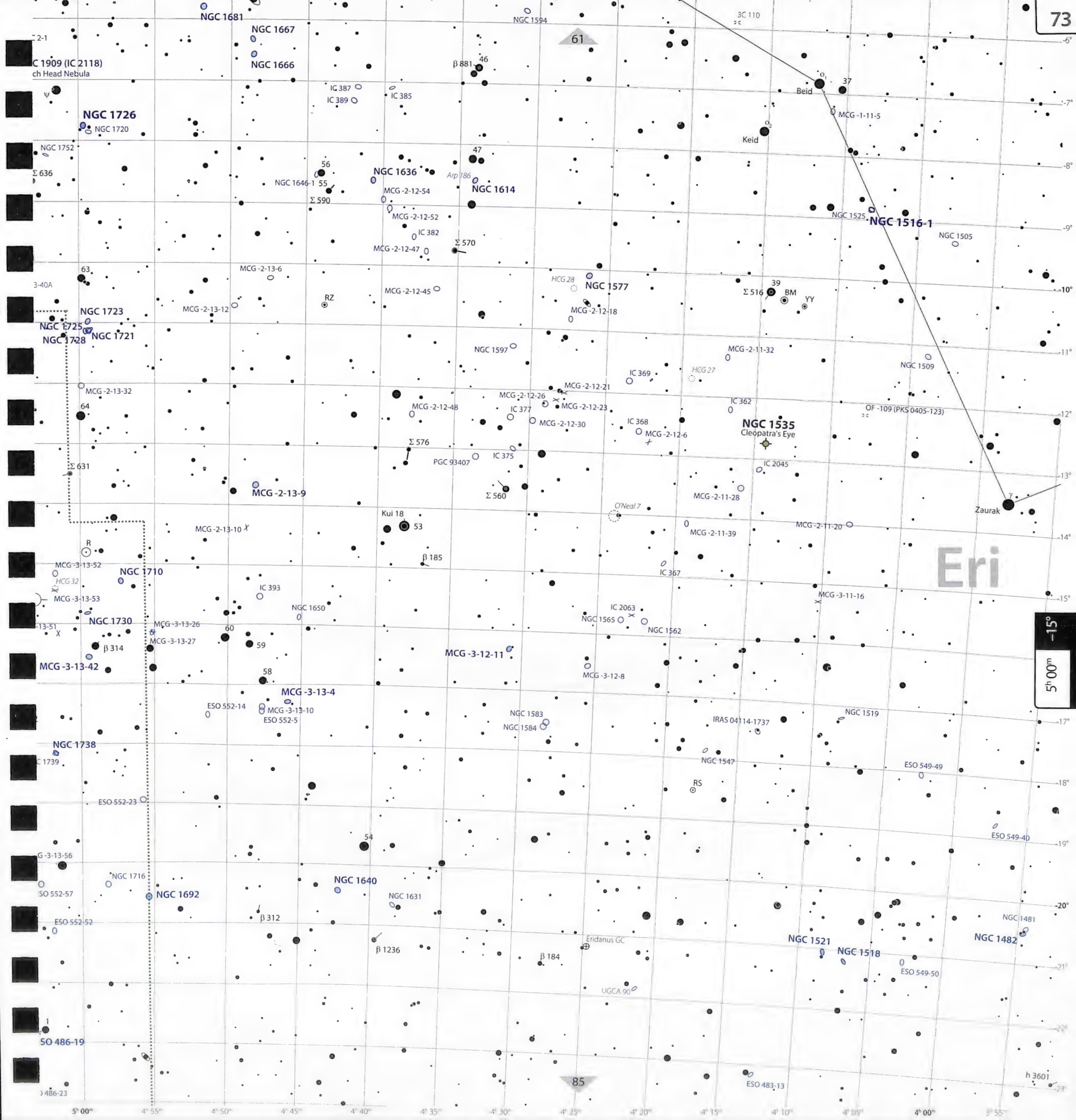


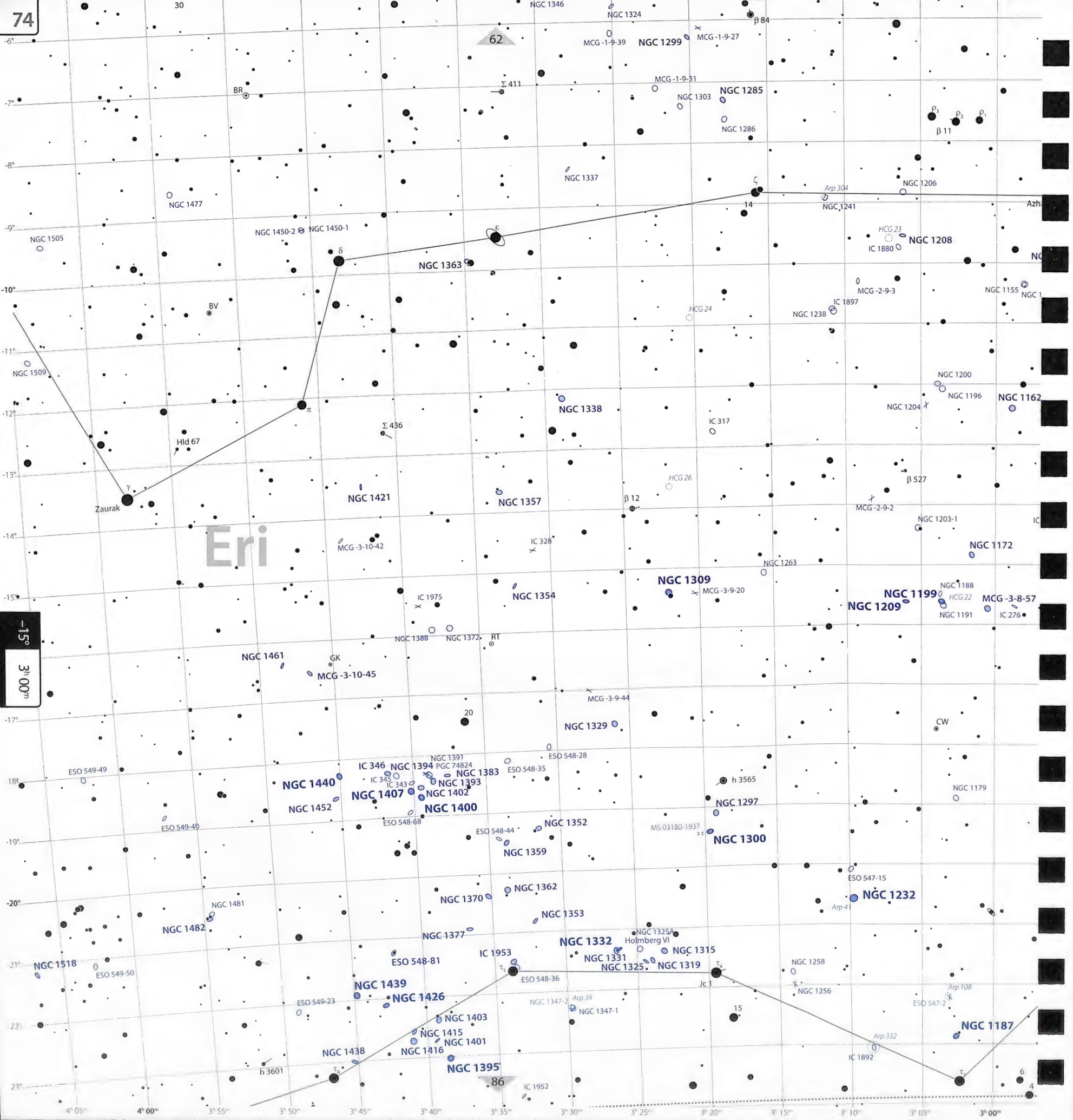




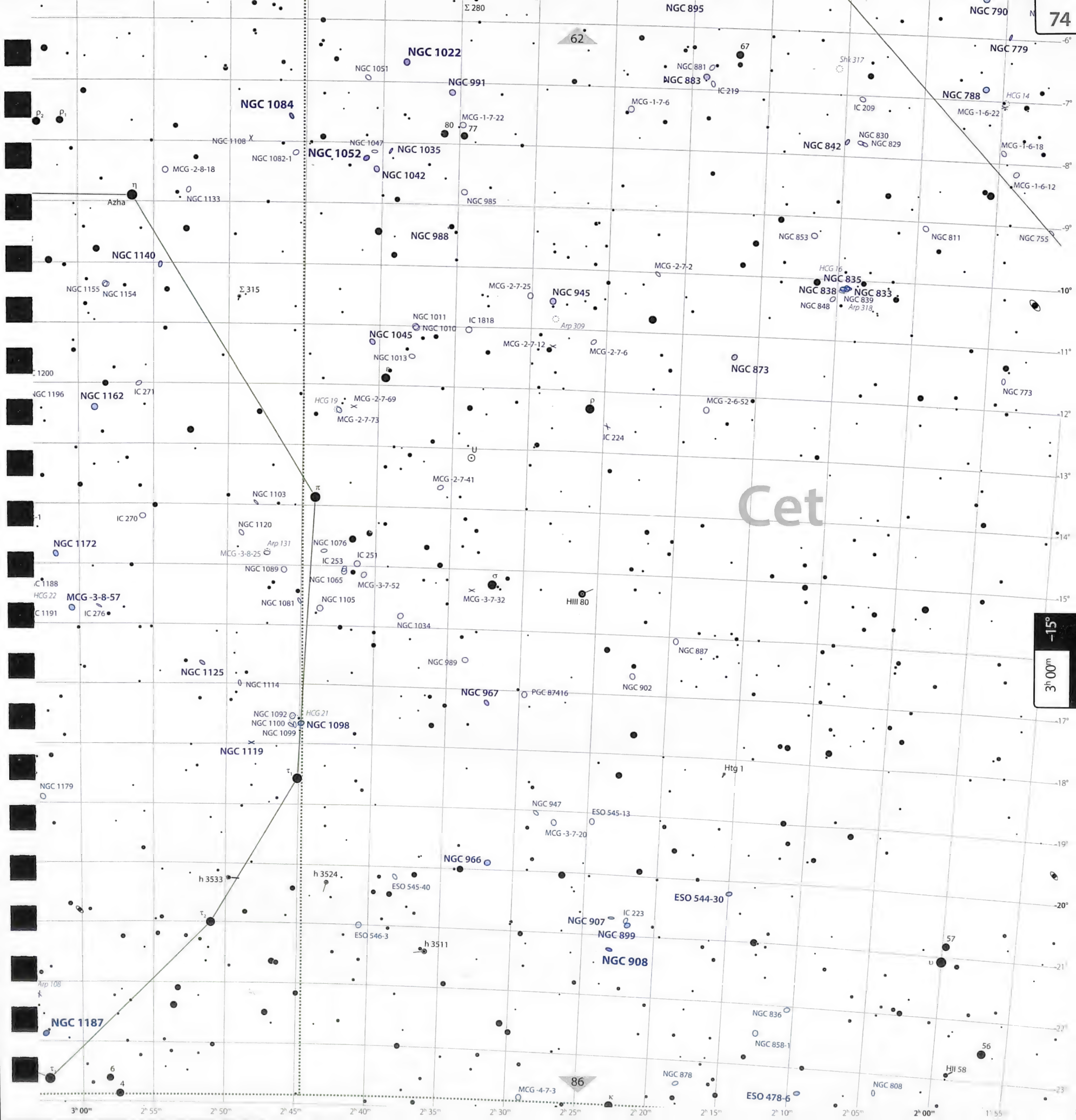


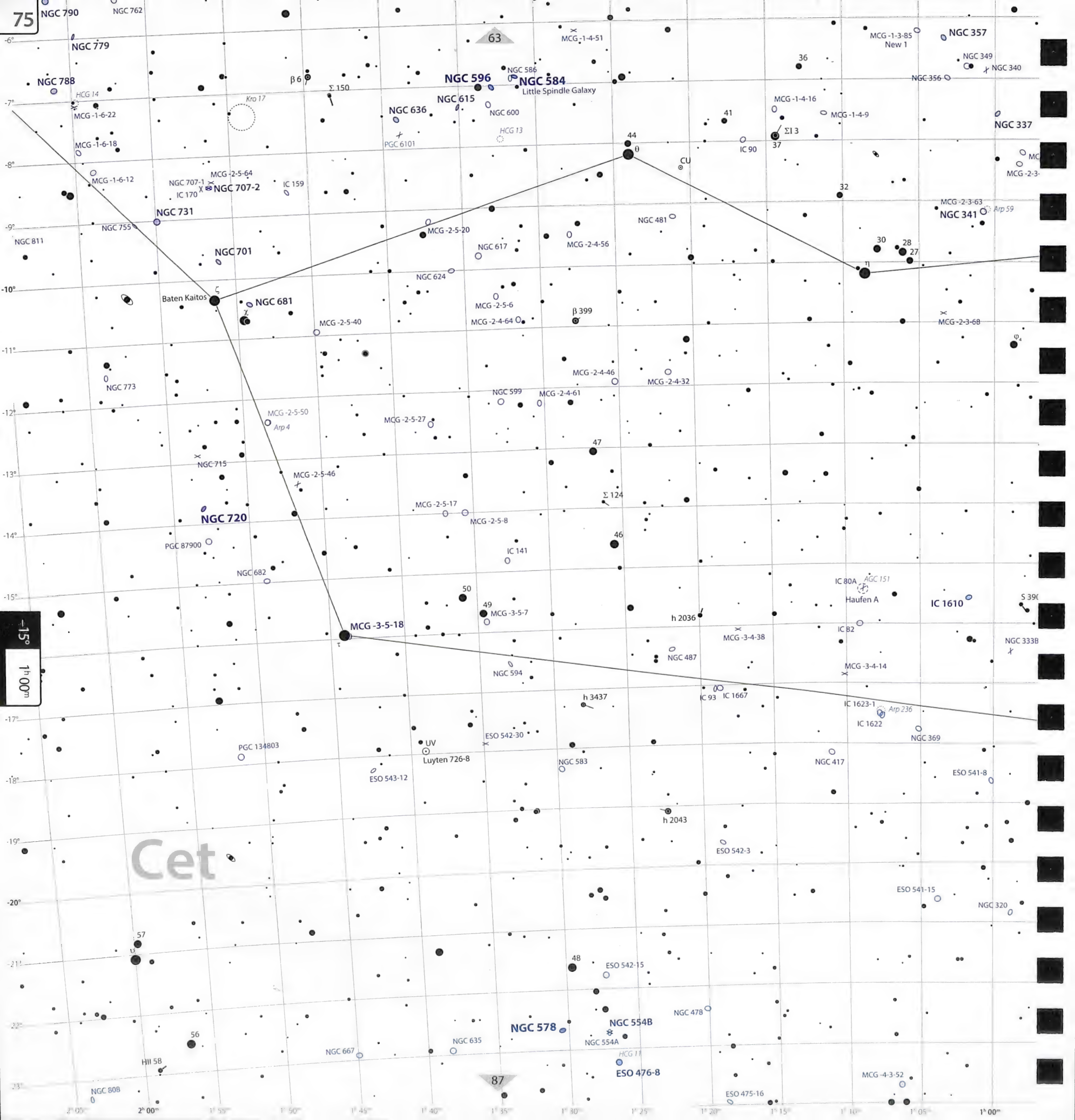




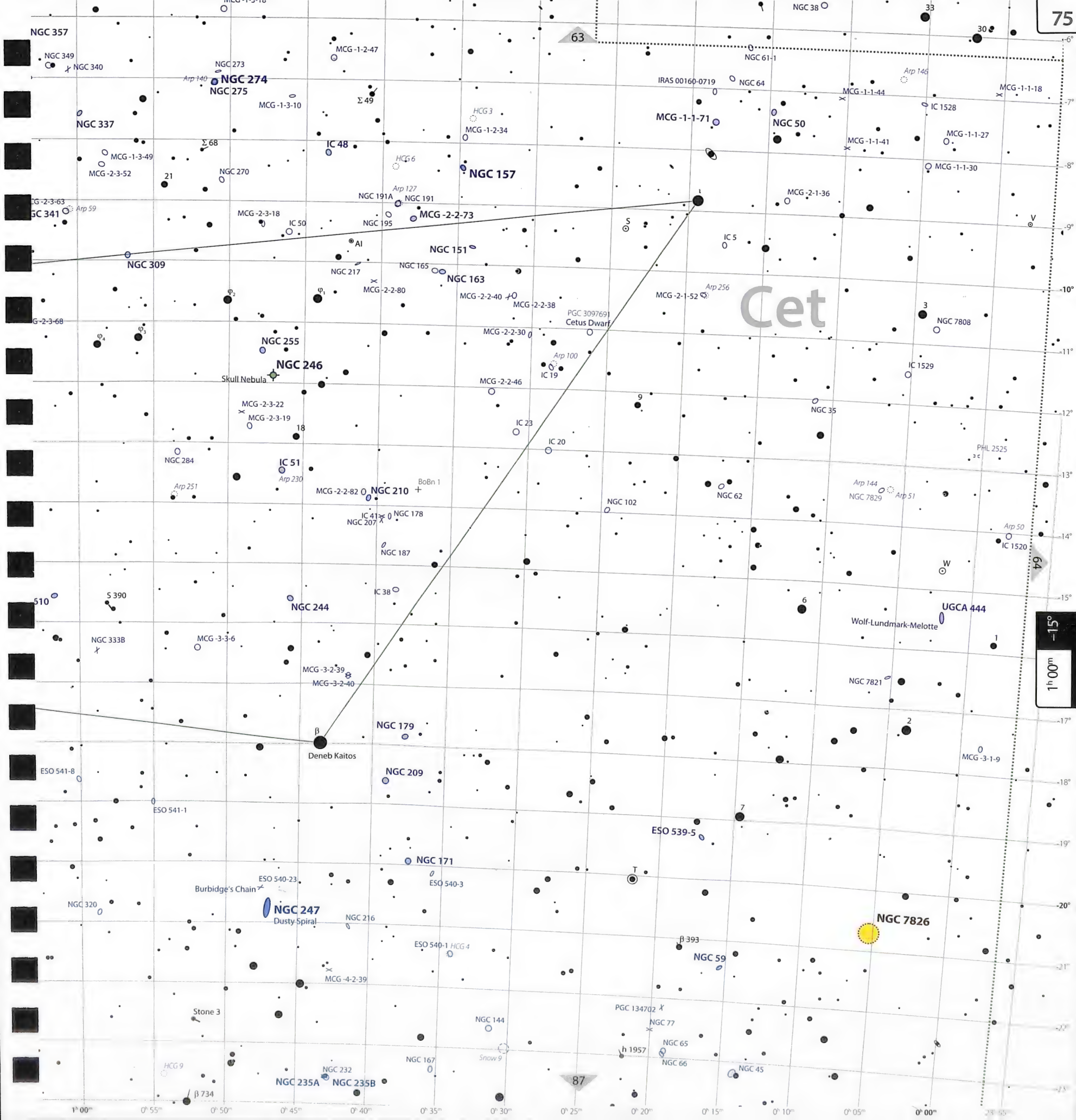












NGC 7826

NGC 7730

ESO 605-16

64

101

B 1900

100

ESO 604-10

NGC 7573

ESO 535-17

ESO 535-15

NGC 7520

ESO 536-2

86

ESO 534

ESO 535-1

h 5

NGC 24

Str 48

ESO 472-4

PGC 134589

h 5417

PGC 134548

See 492

ESO 535-14

NGC 7513

NGC 7507

NGC 7636

NGC 7645

Fomalhaut

Blanco 1

MCG -5-1-16

NGC 7749

NGC 7755

Scl

Howe 93

ESO 471-45

NGC 7793

MCG -6-1-5

MCG -6-51-9

MCG -6-51-7

PGC 95264

PGC 95261

ESO 407-14

MCG -6-51-2

Lacaille 9352

IC 5270

IC 5271

NGC 7484

β 1011

IC 1459

IC 5272

Gru

NGC 7545

β 773

88

MCG -7-48-19

NGC 7713A

NGC 7713

PGC 95267

1693

MCG -6-51-15

MCG -6-52-4

MCG -6-52-5

MCG -6-1-1

ESO 349-1

AGC 4059

NGC 7812

ESO 349-31

NGC 10

ESO 349-38

ESO 349-26A

ESO 349-26C

ESO 349-27

MCG -6-1-32

ESO 293-49

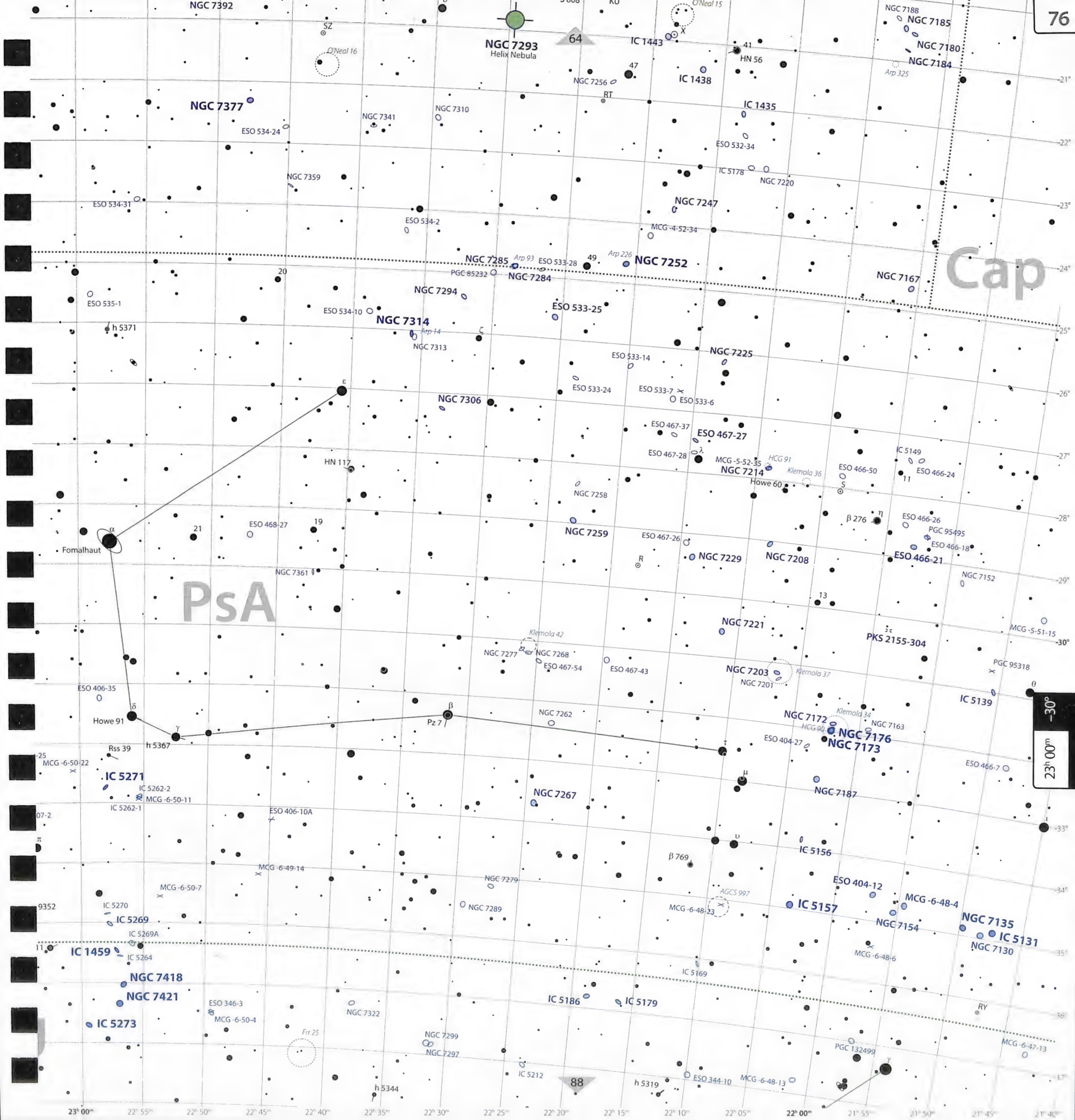
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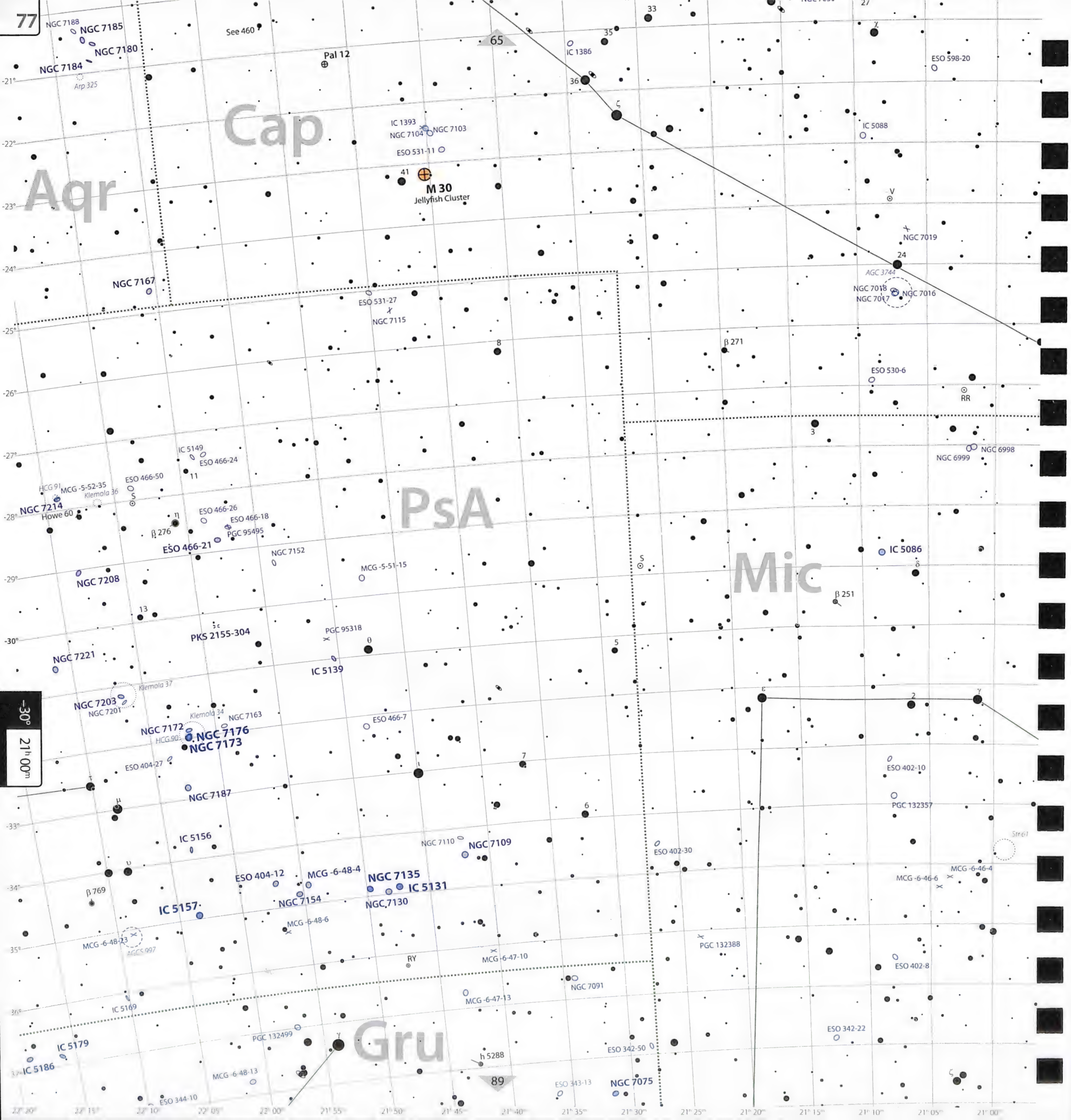
PGC 95455

-30°  
23h 00m

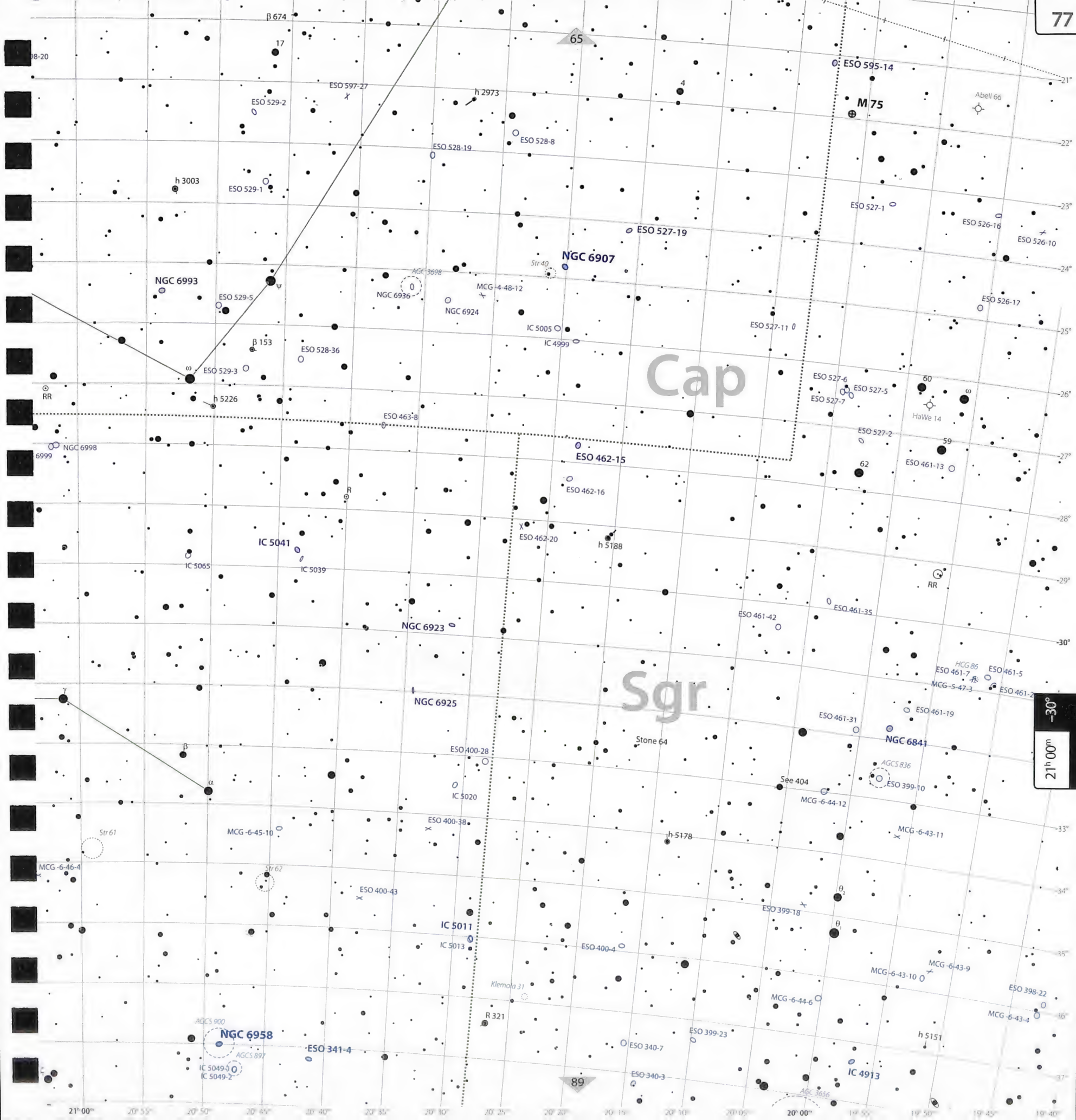
0° 20' 0" 0° 15' 0" 0° 10' 0" 0° 05' 0" 0° 00' 0" 23h 55m 23h 50m 23h 45m 23h 40m 23h 35m 23h 30m 23h 25m 23h 20m 23h 15m 23h 10m 23h 05m 23h 00m

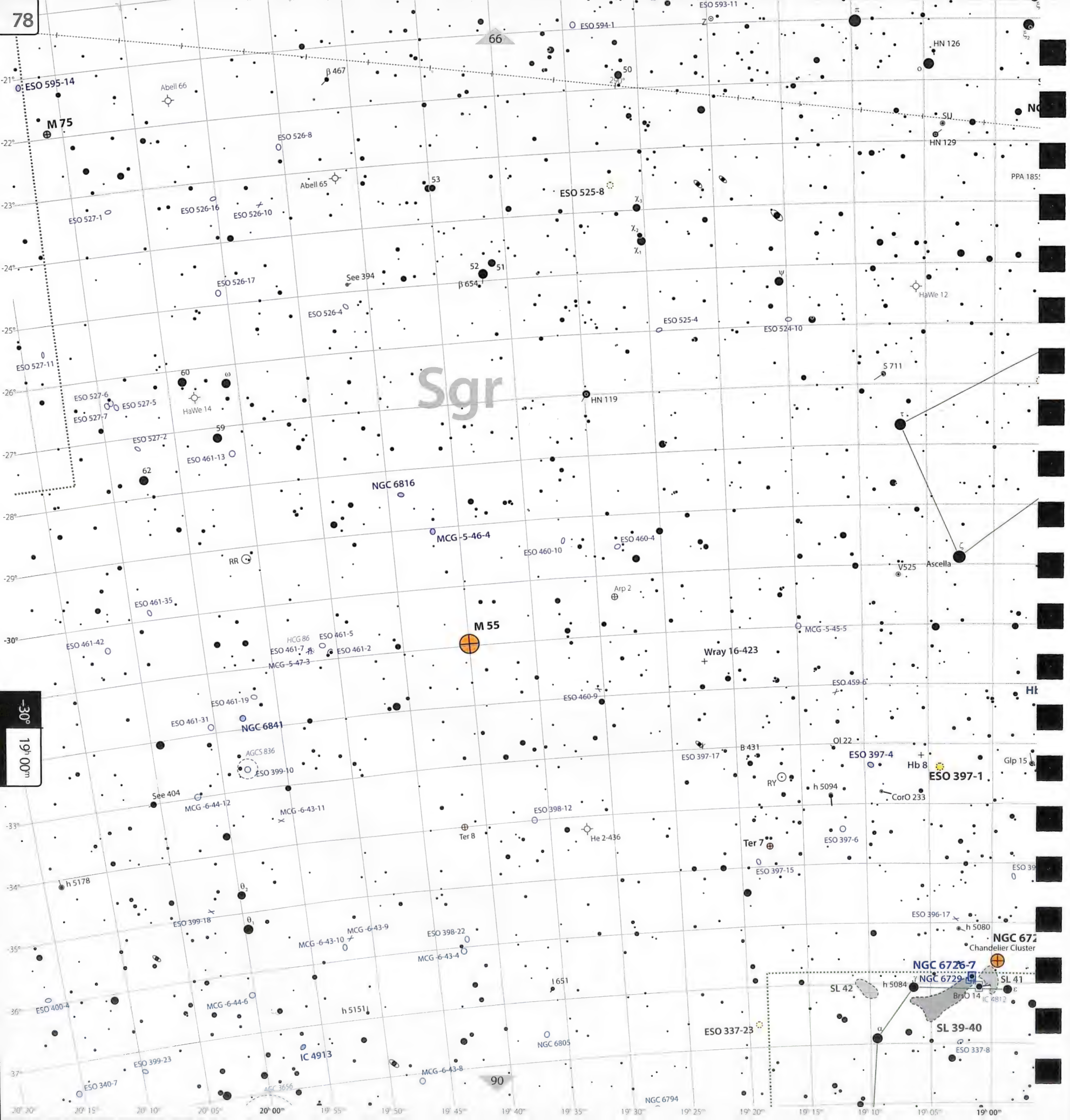




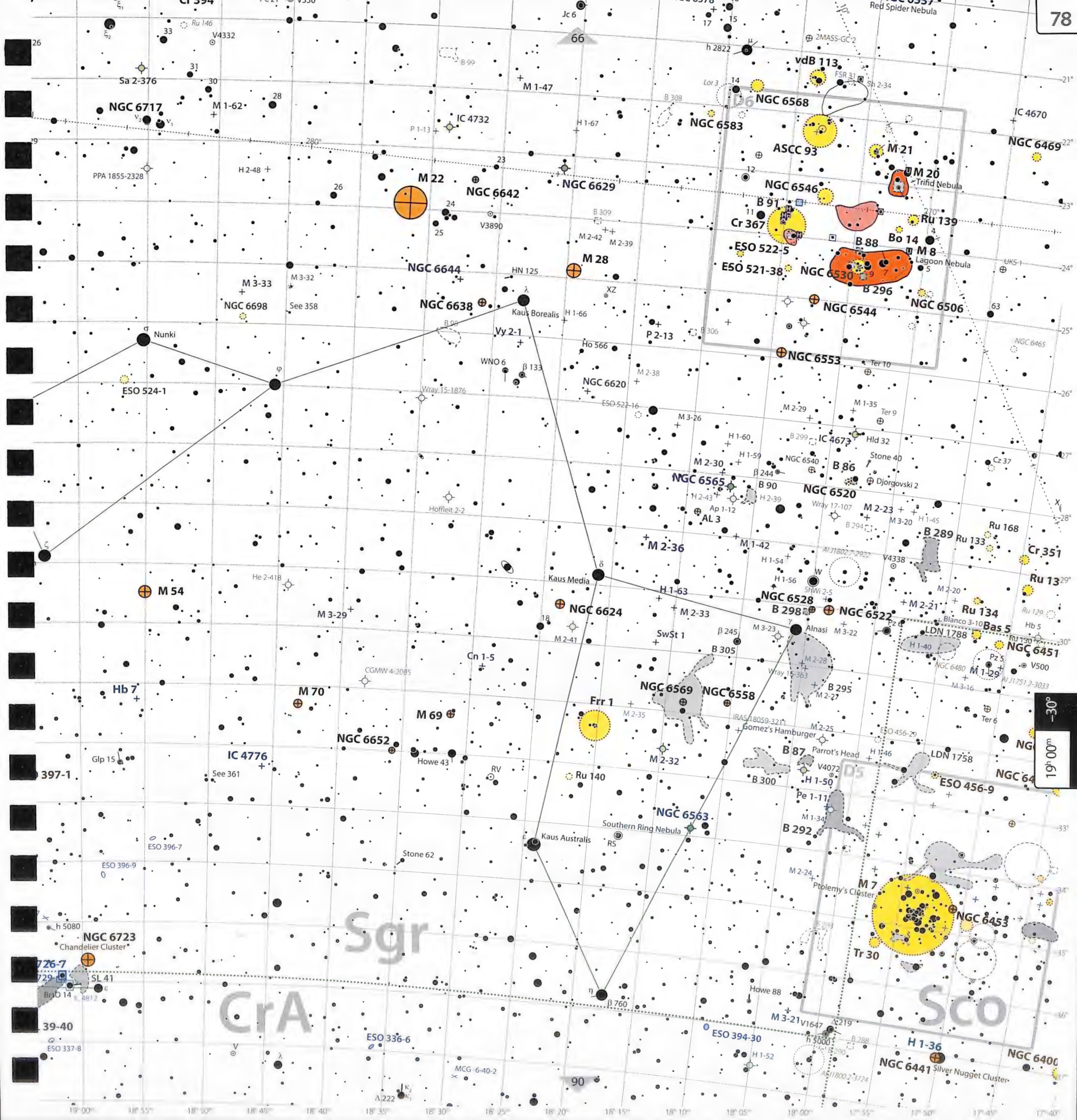








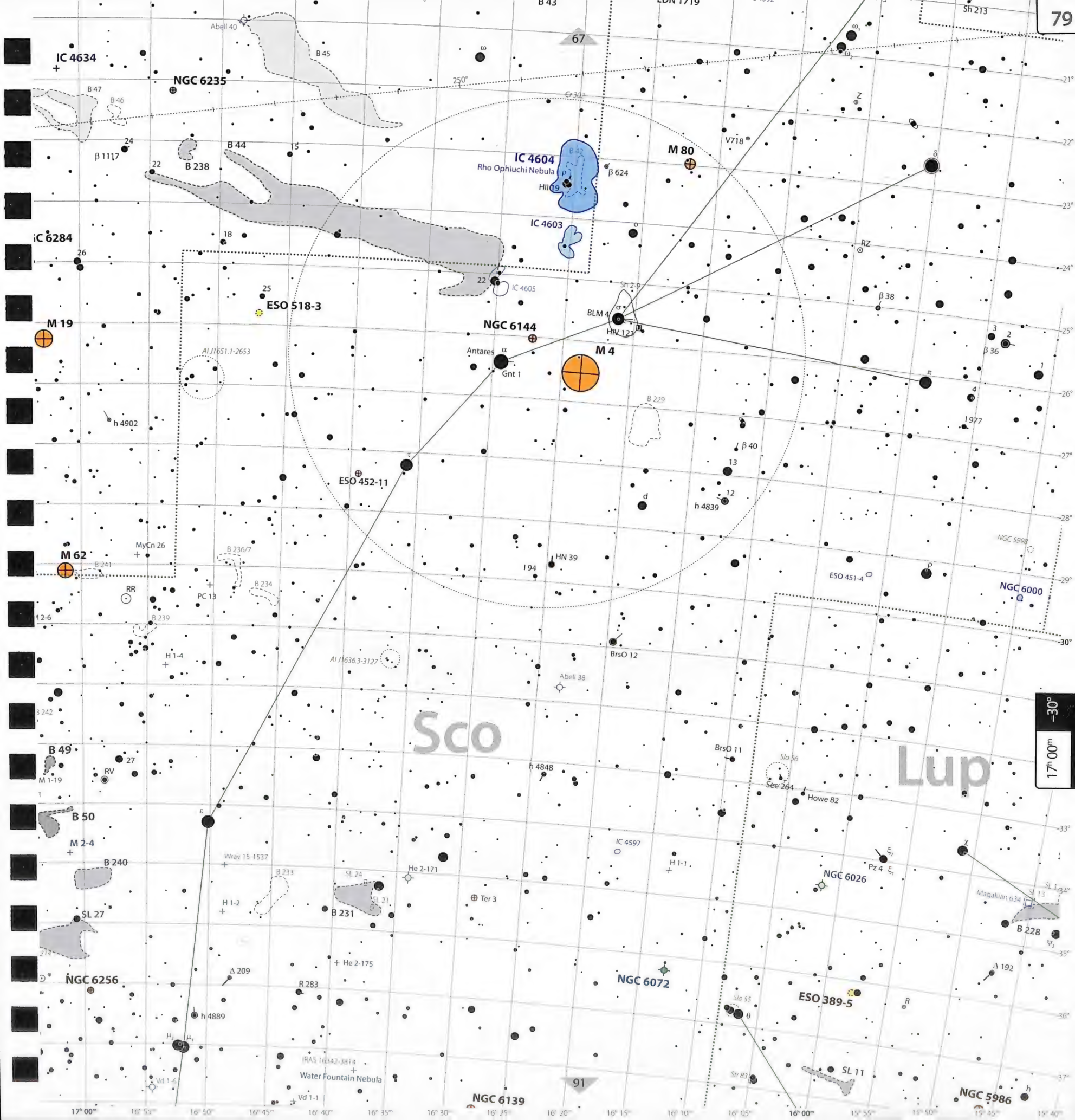






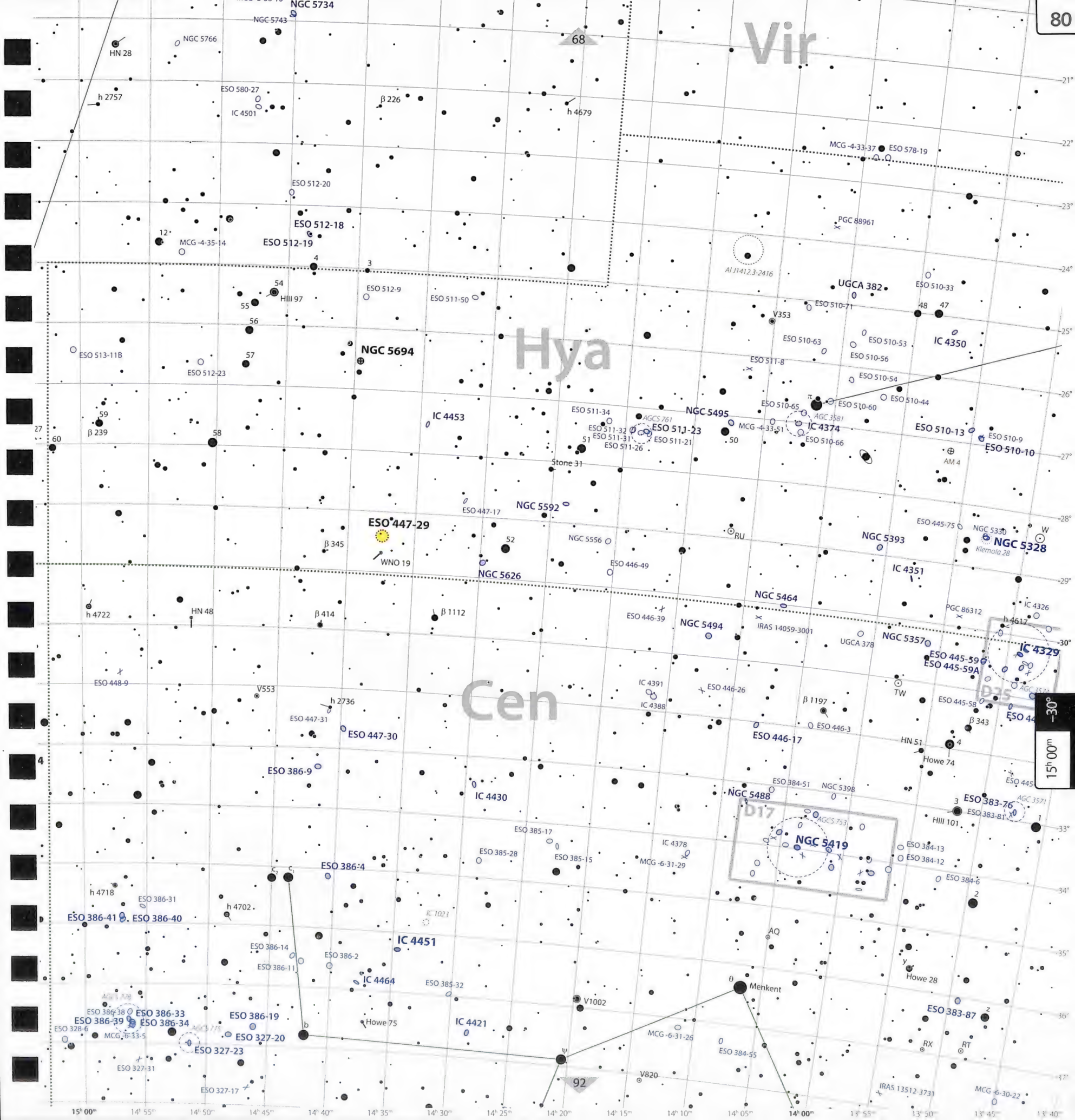










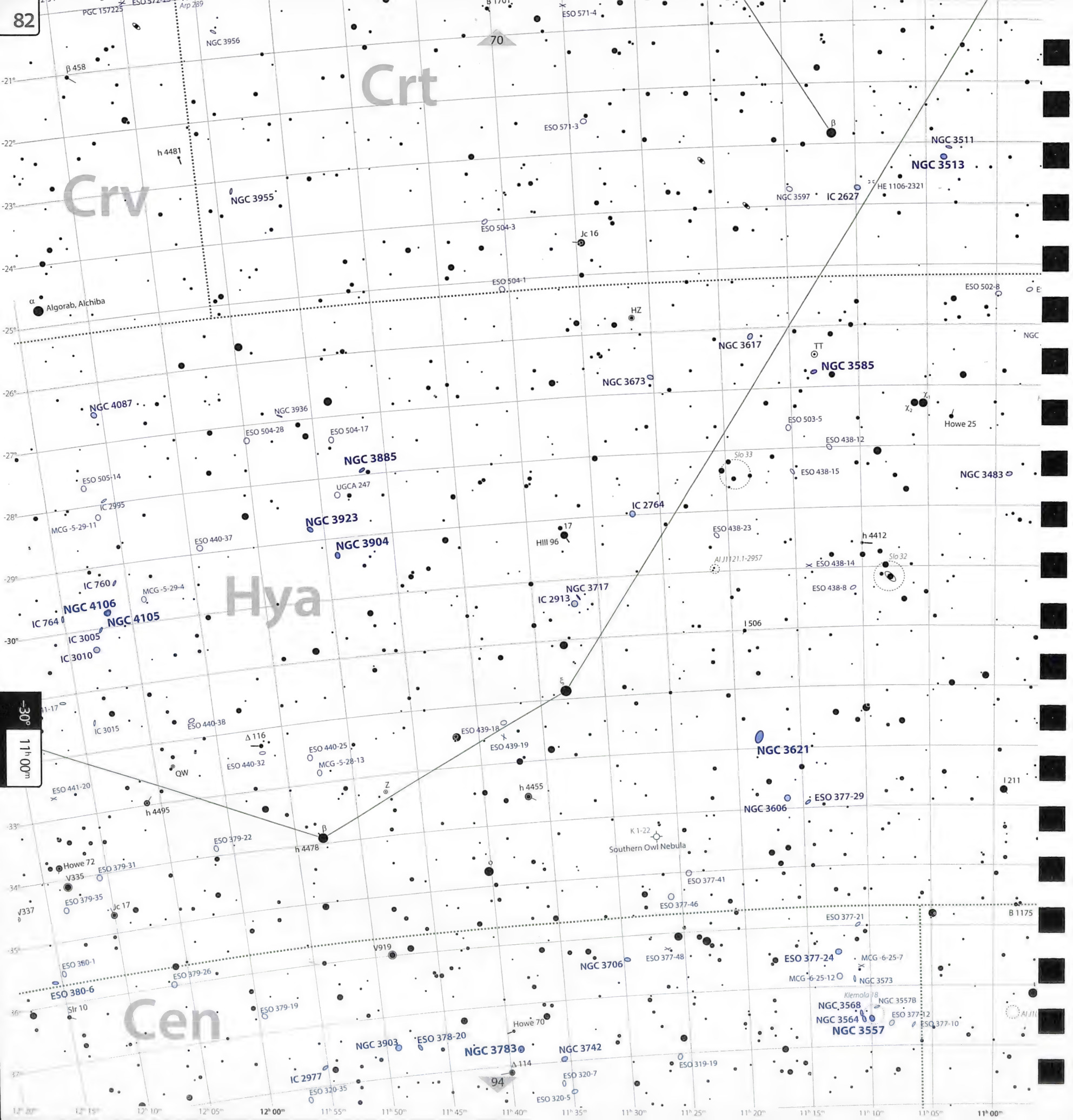




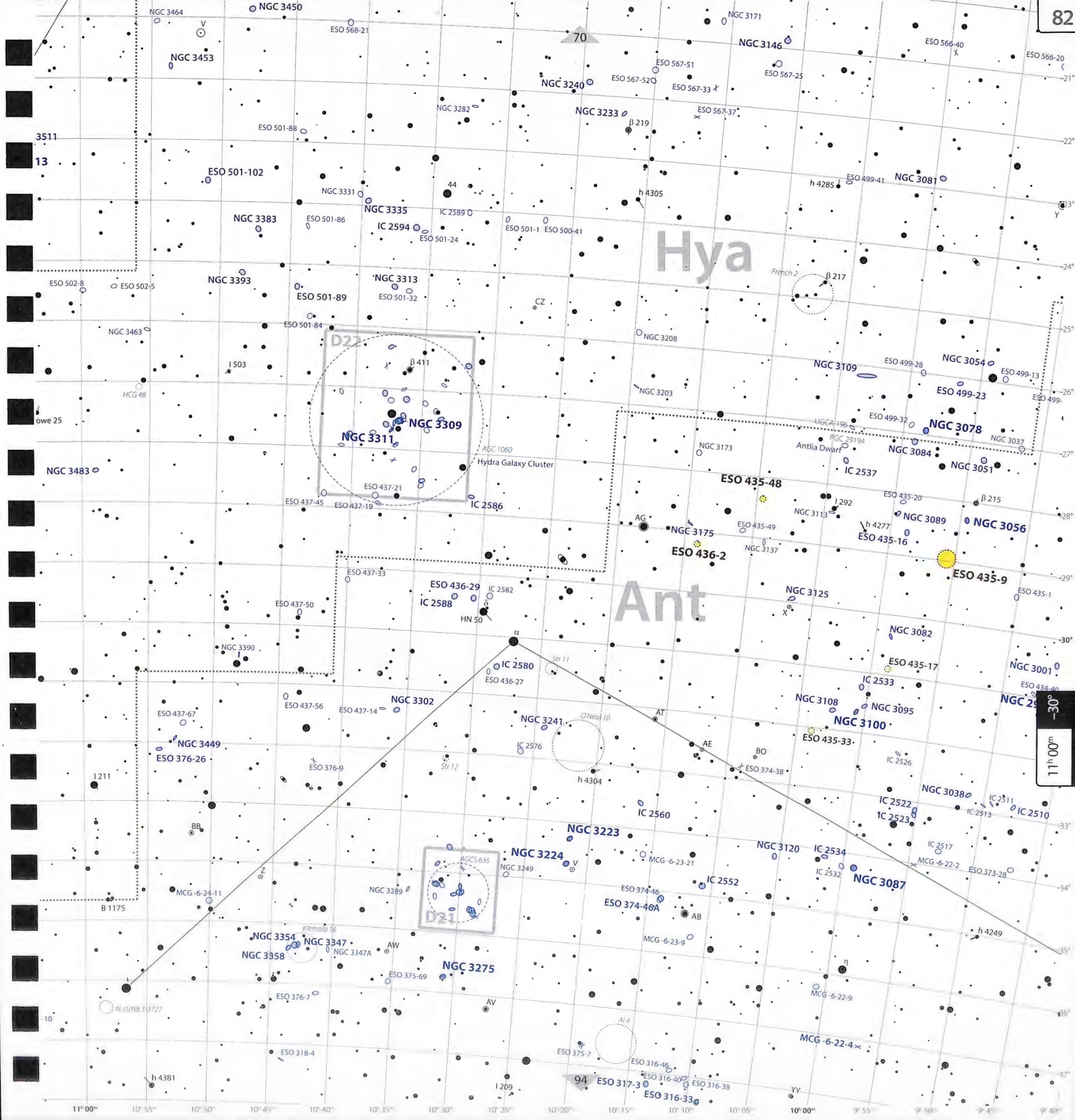








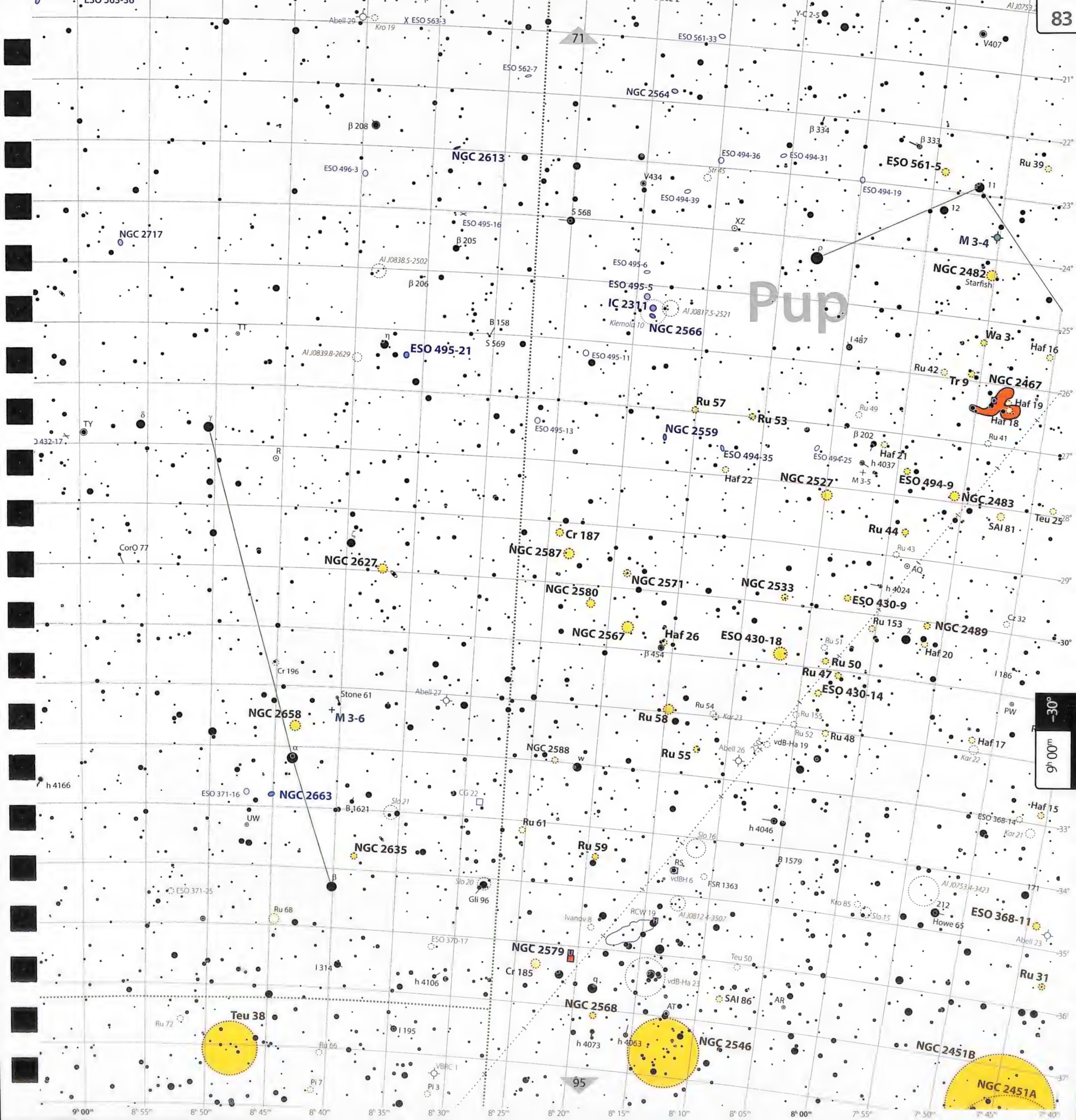








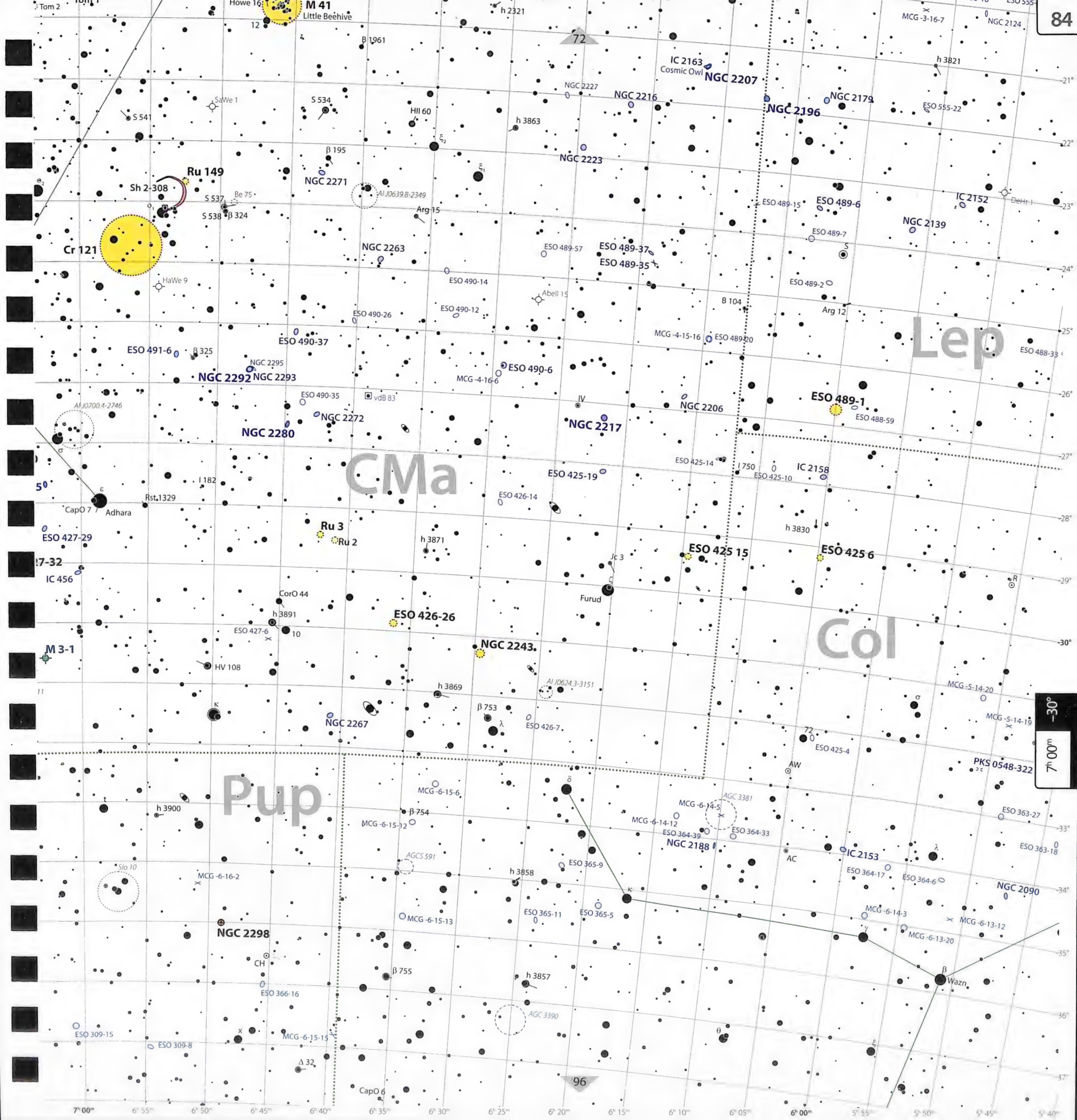






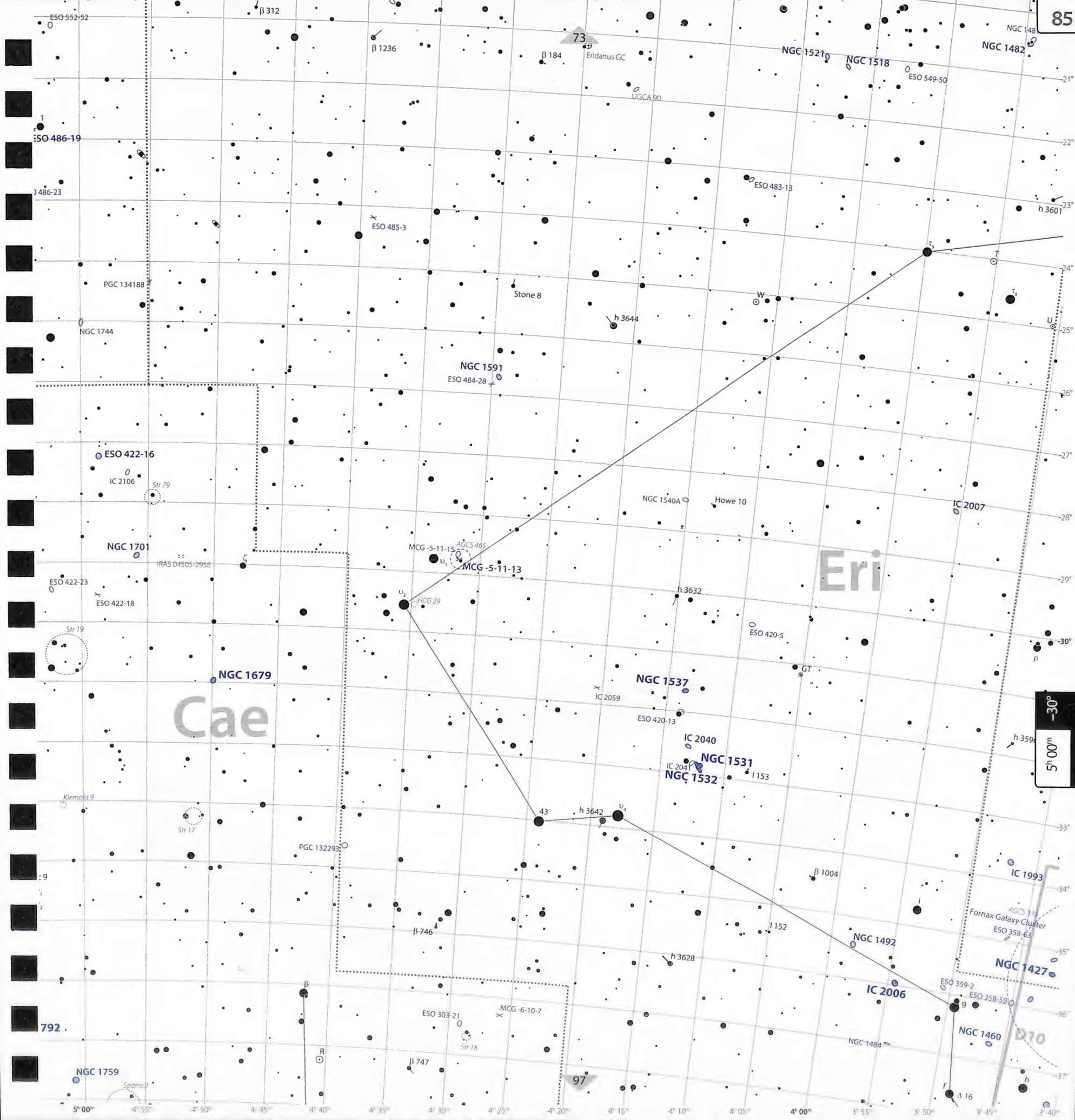






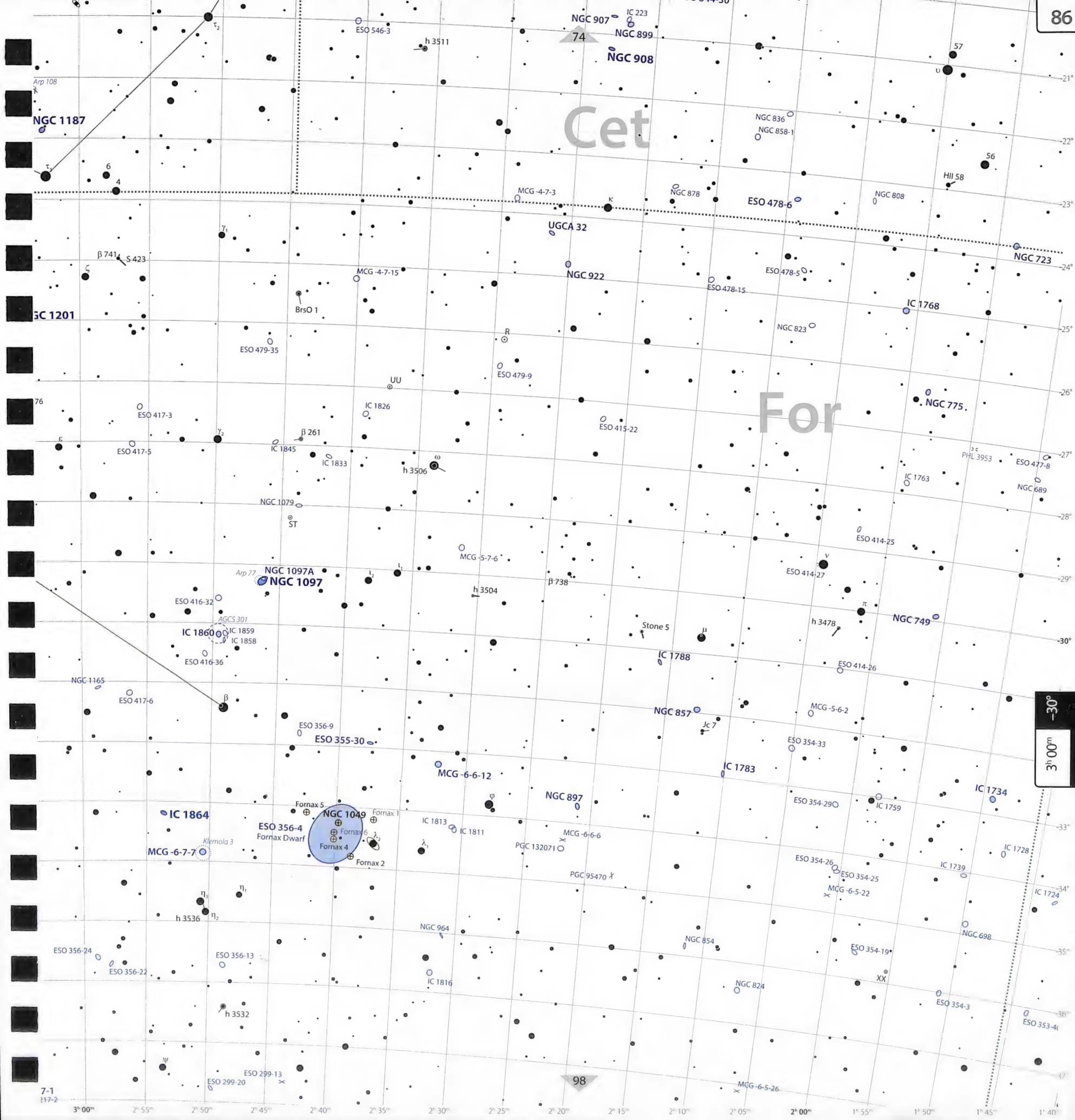


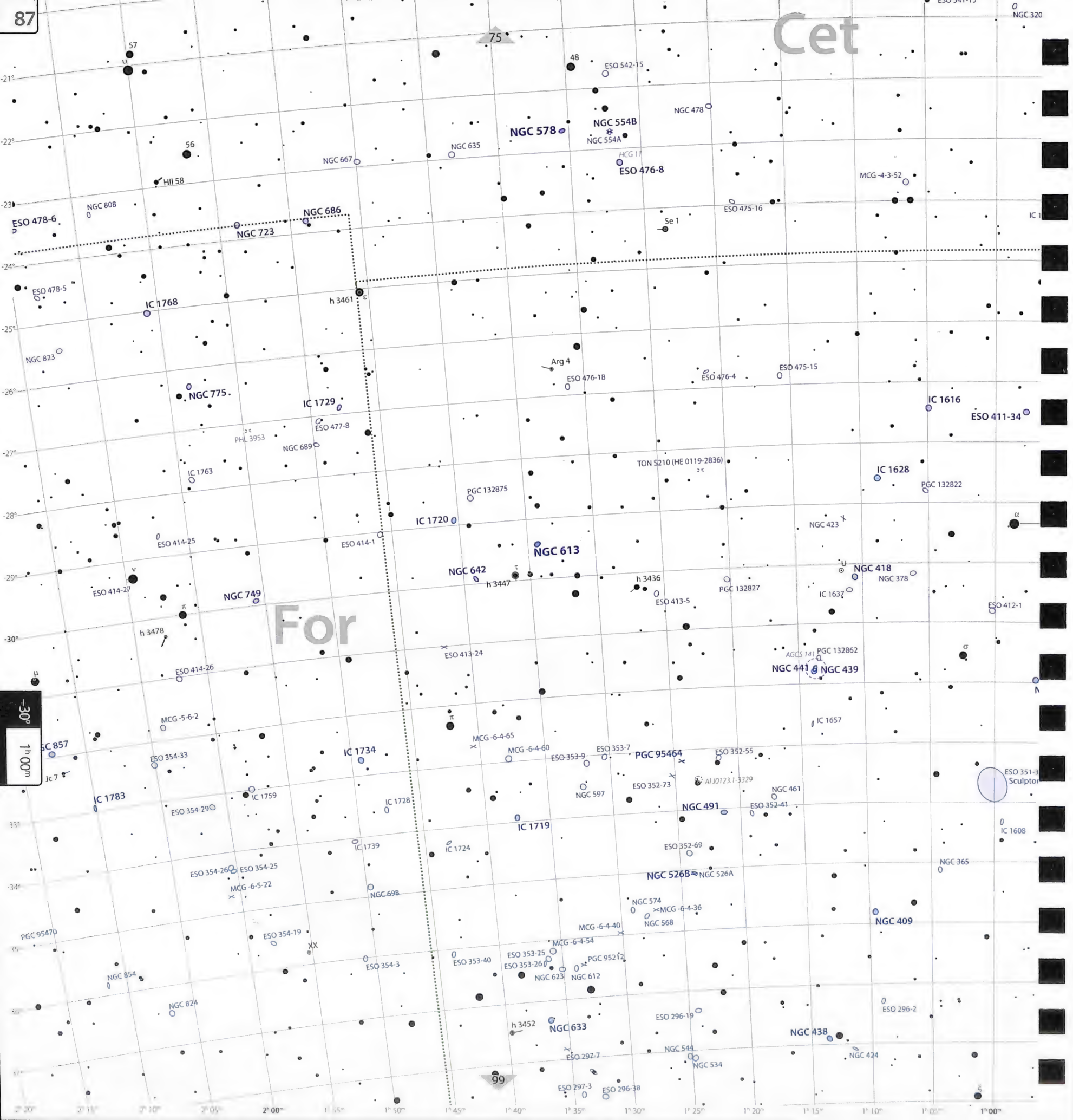




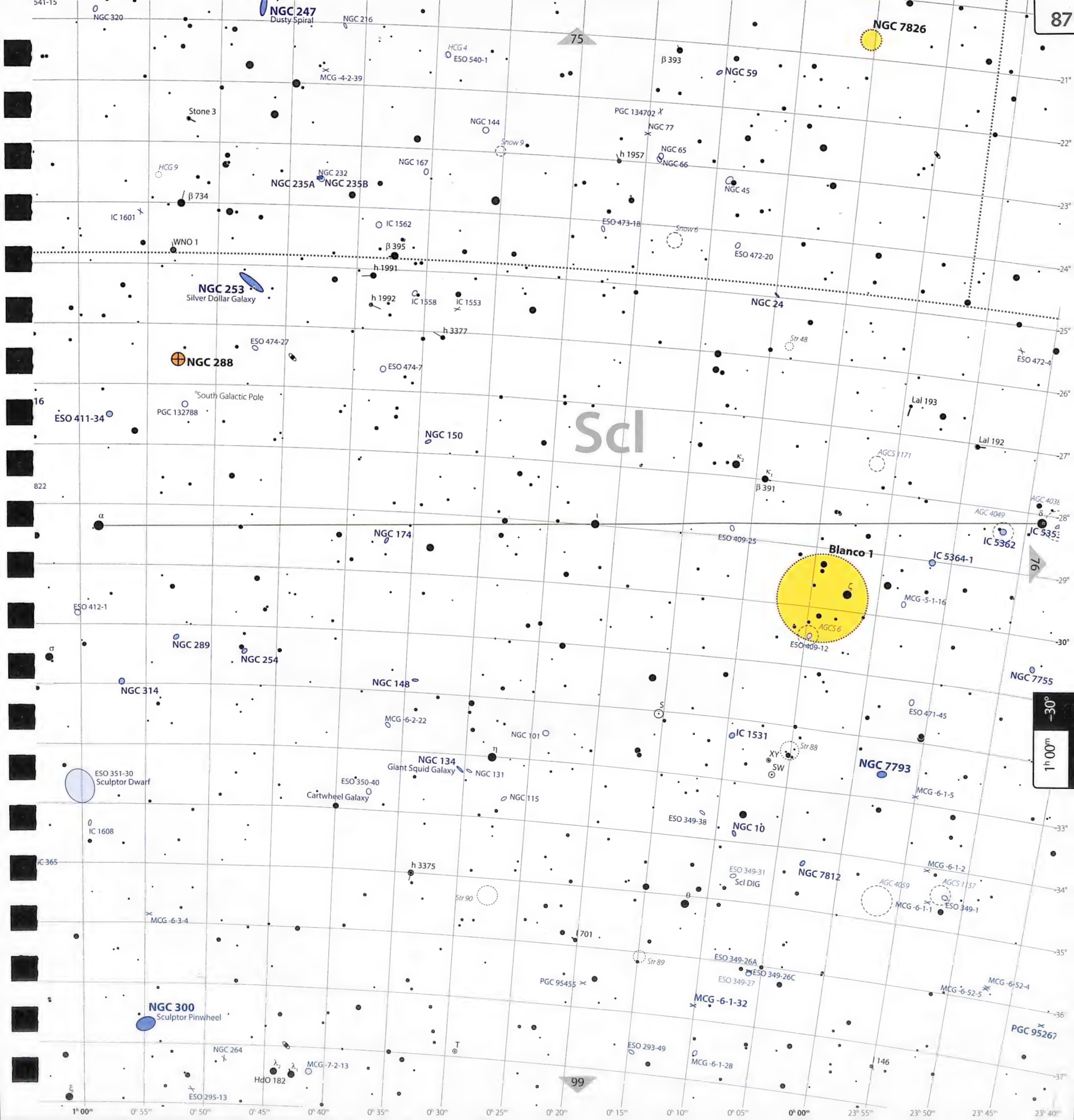


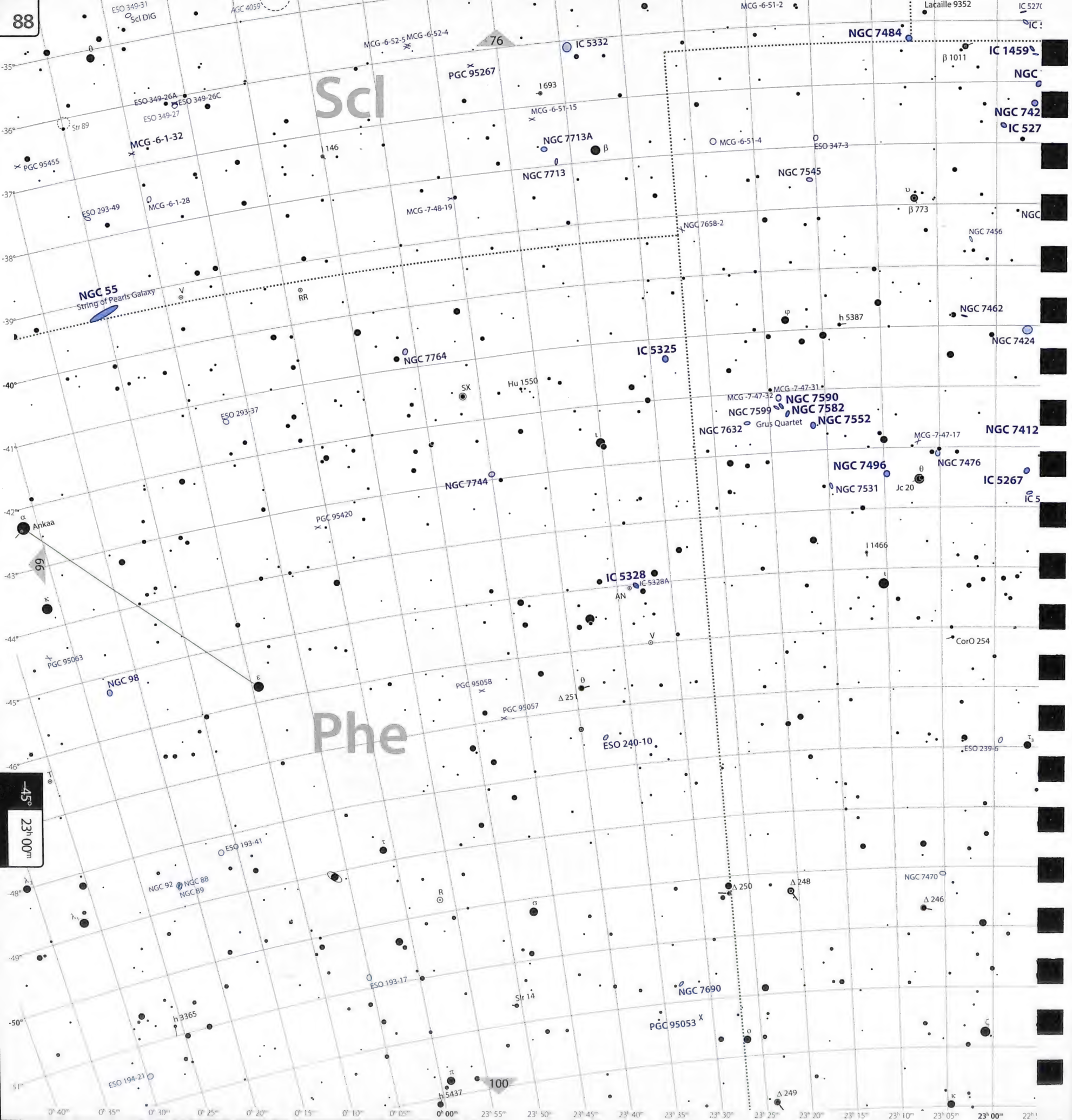




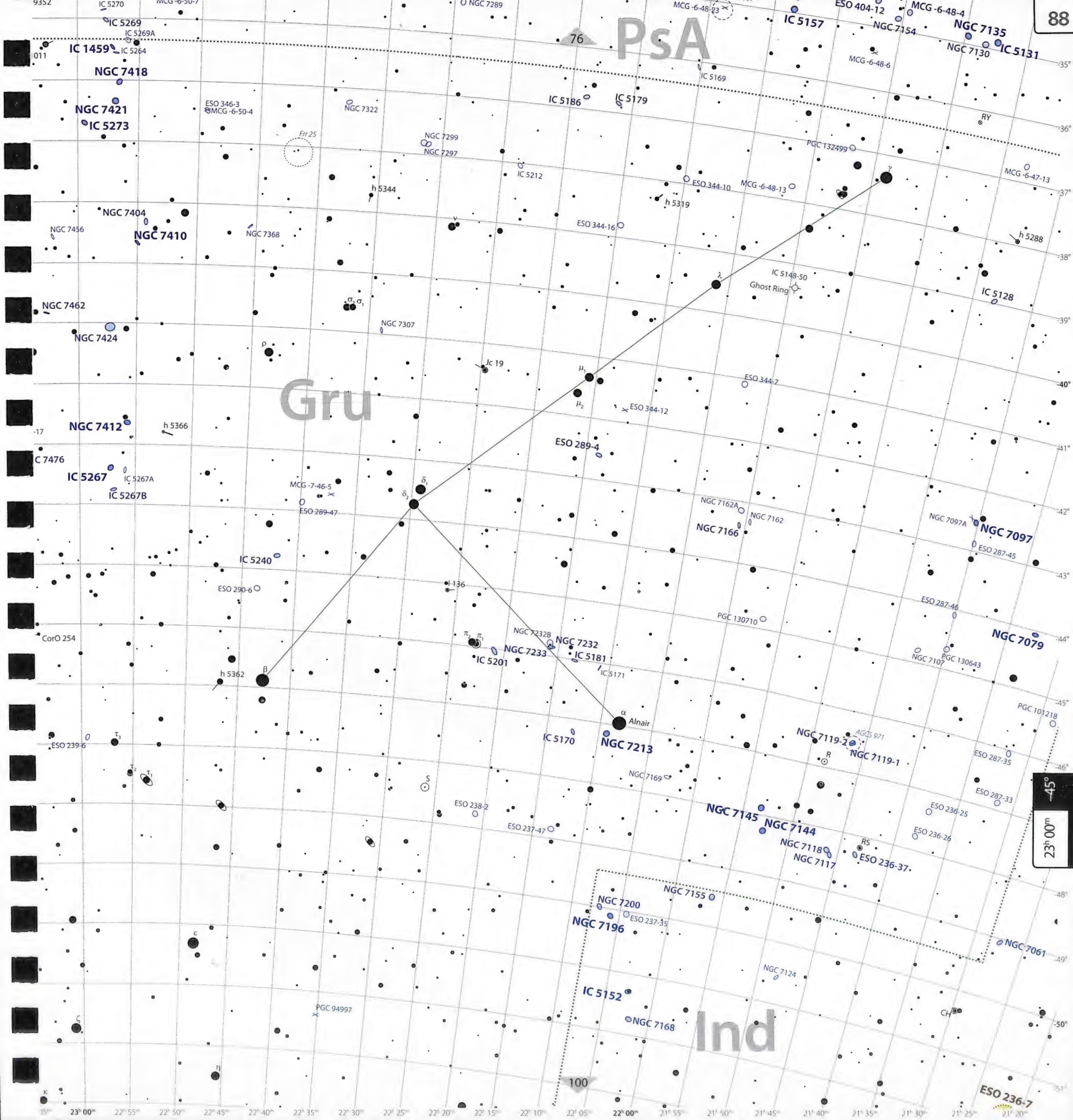






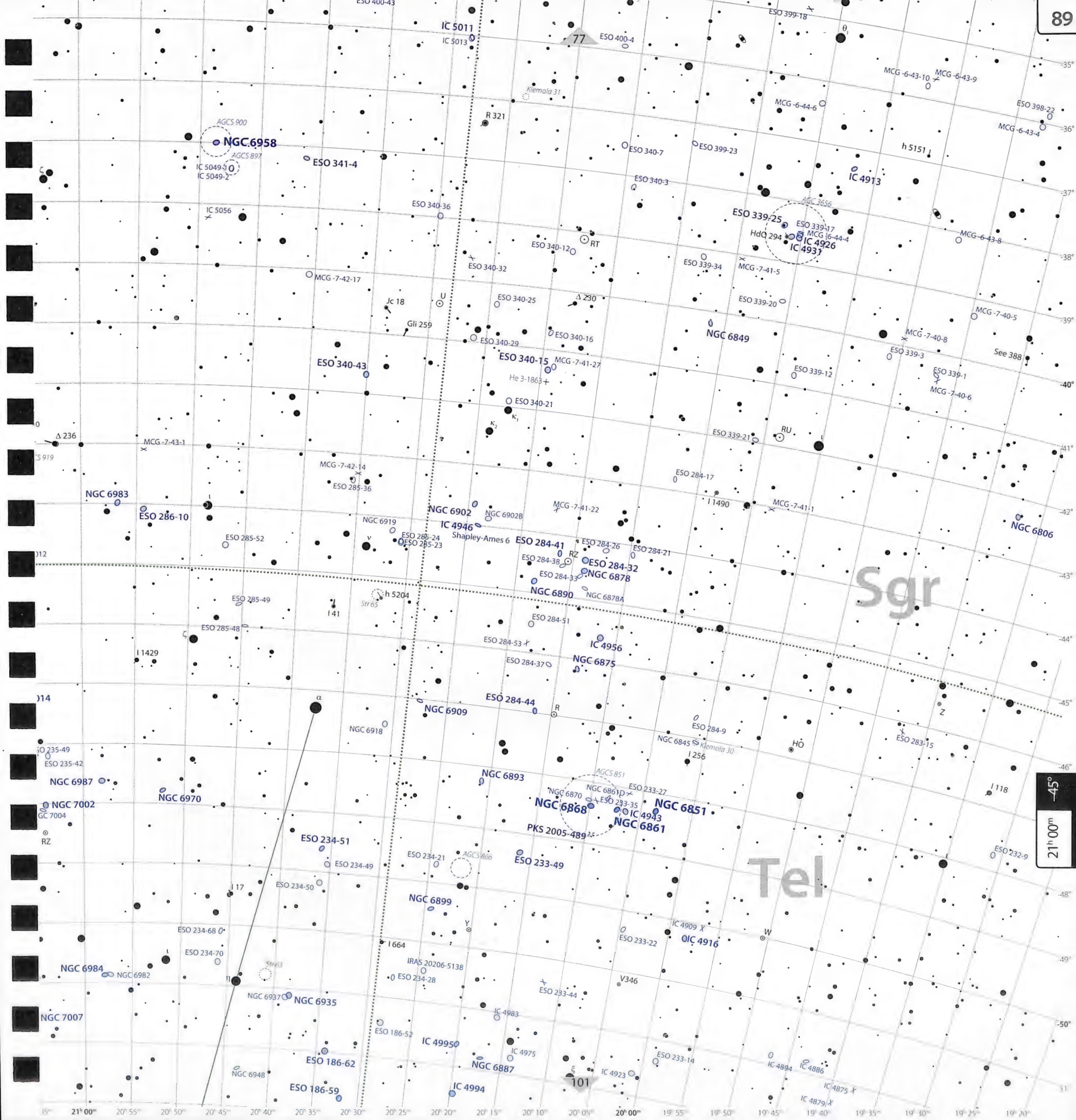
















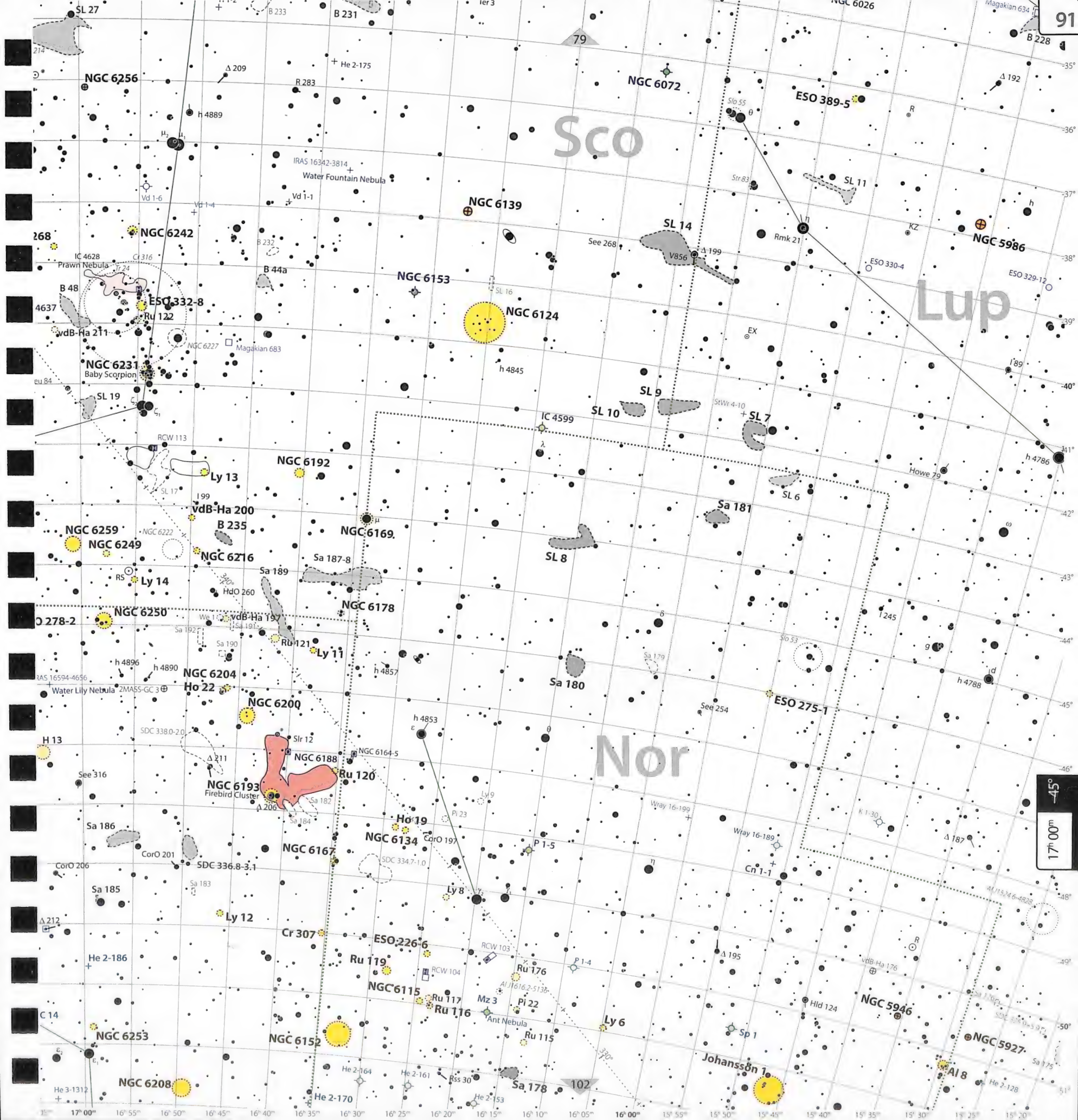












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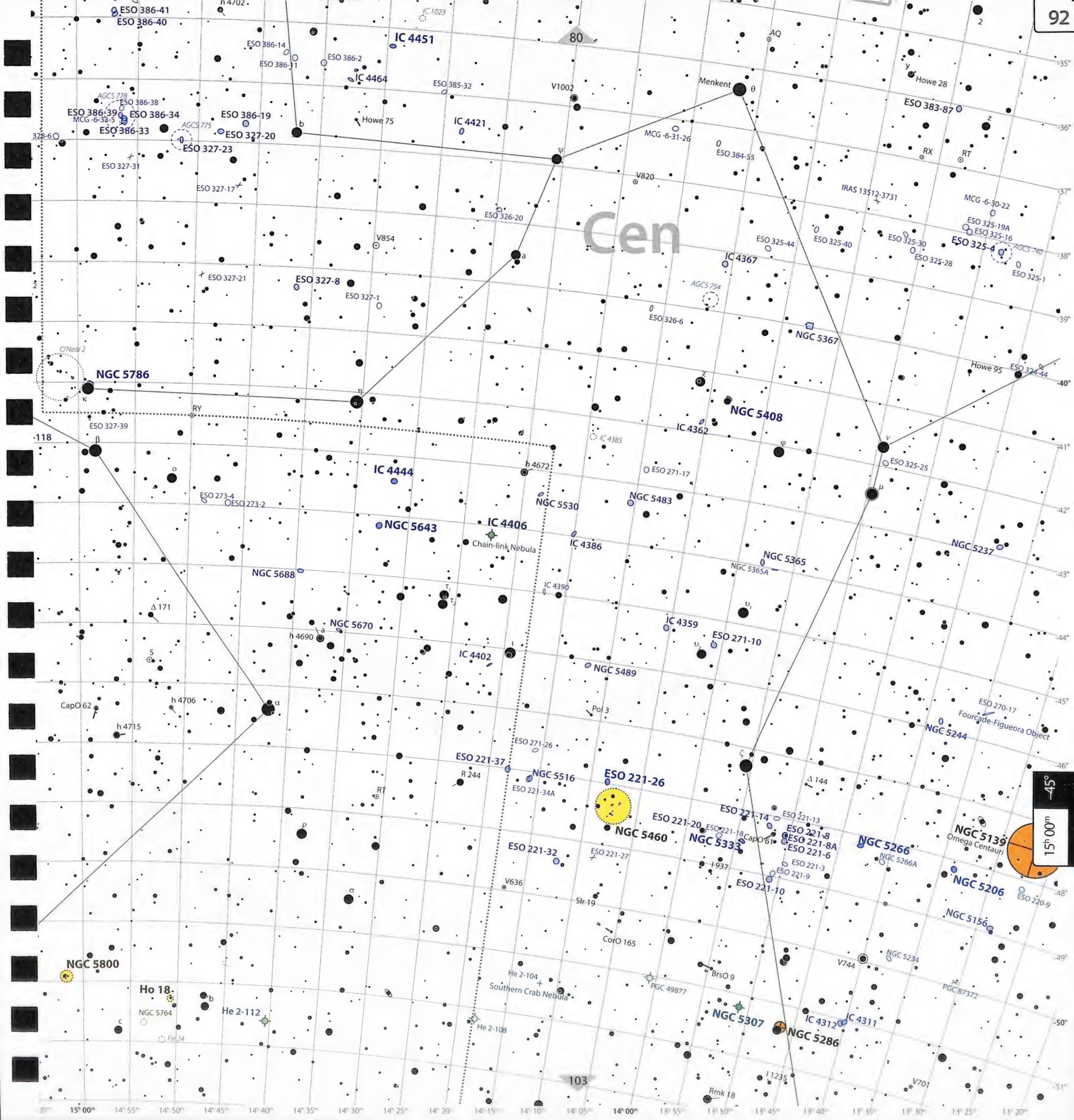
Nor

17° 00' -45°

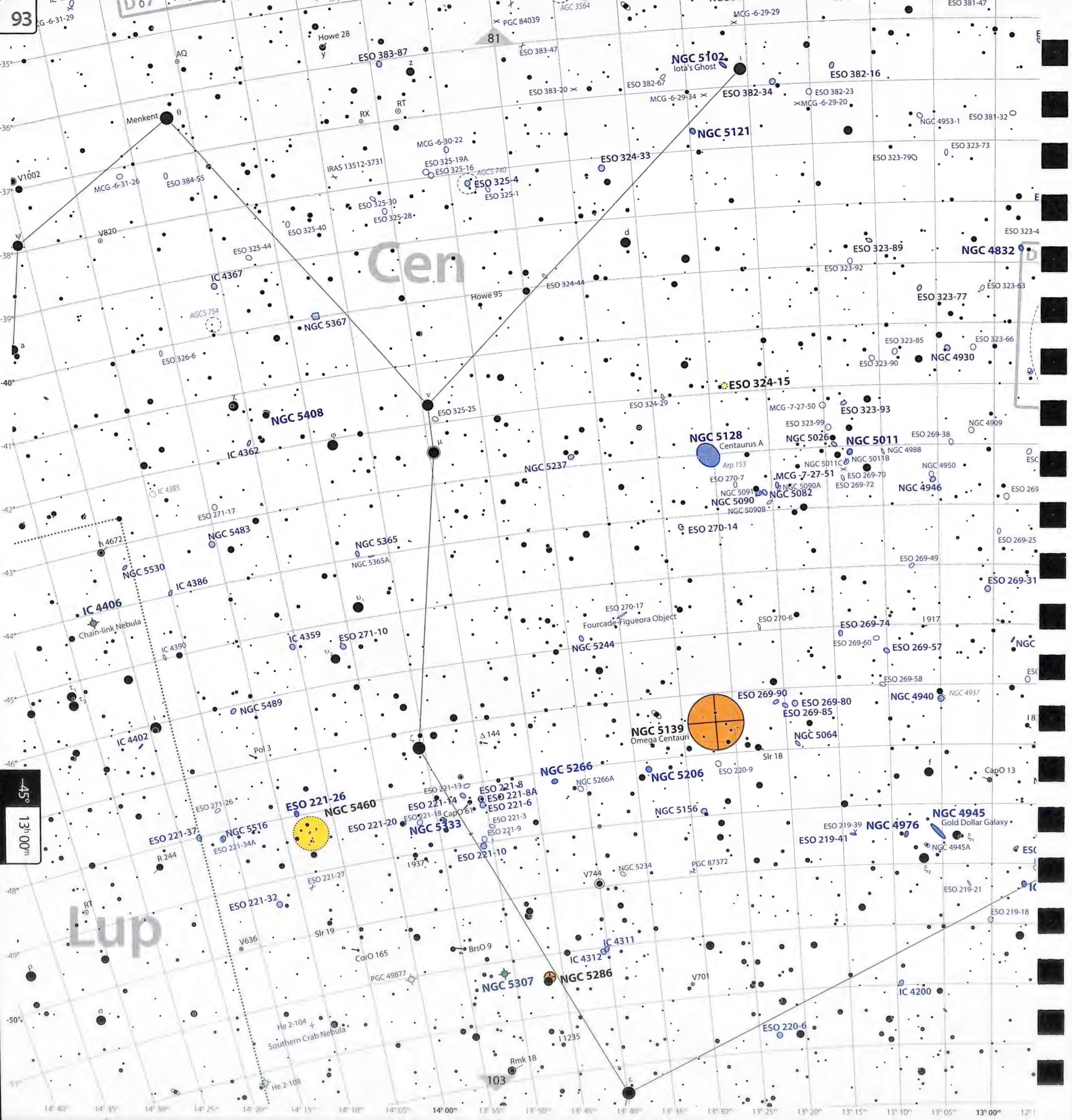




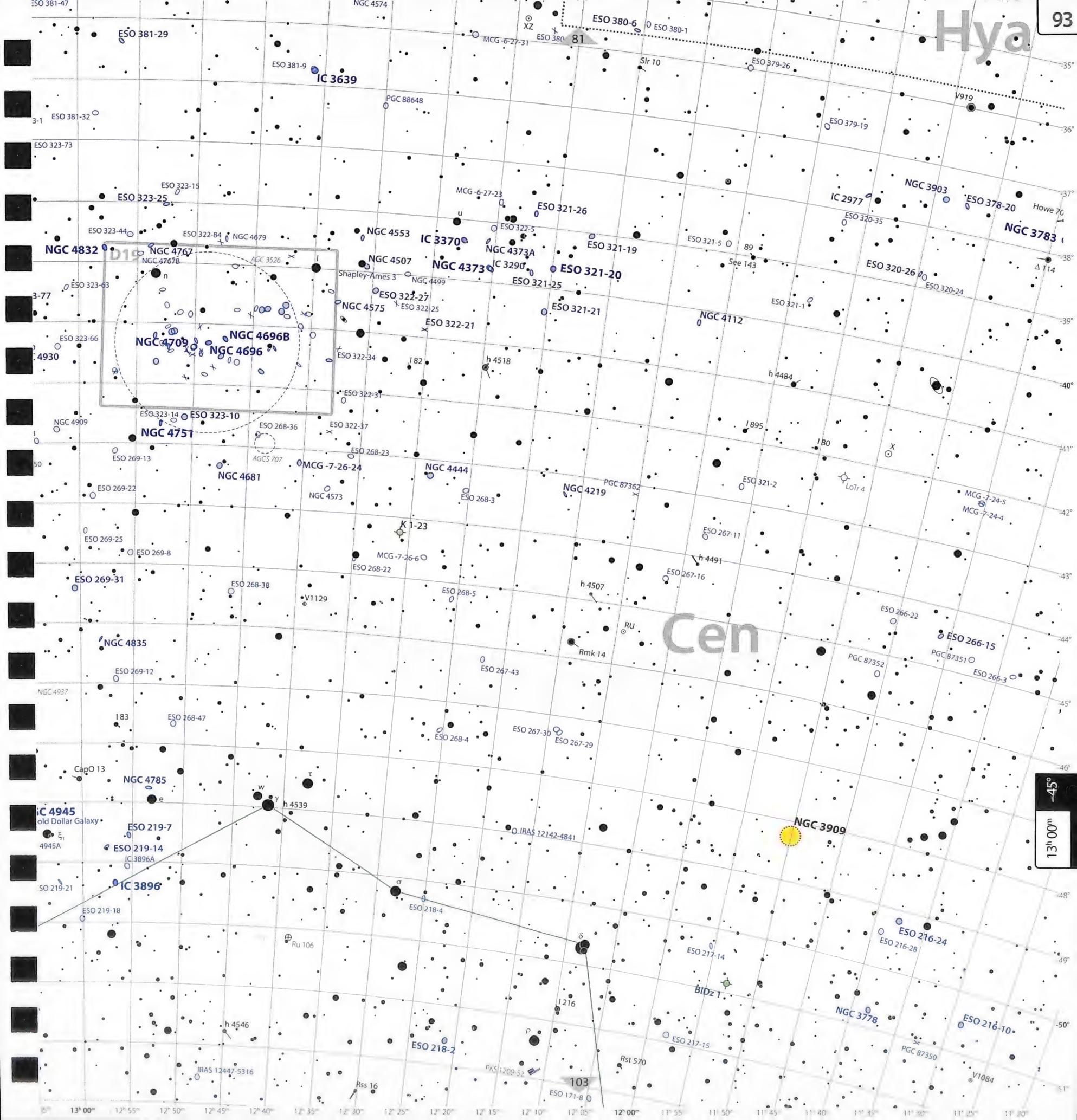


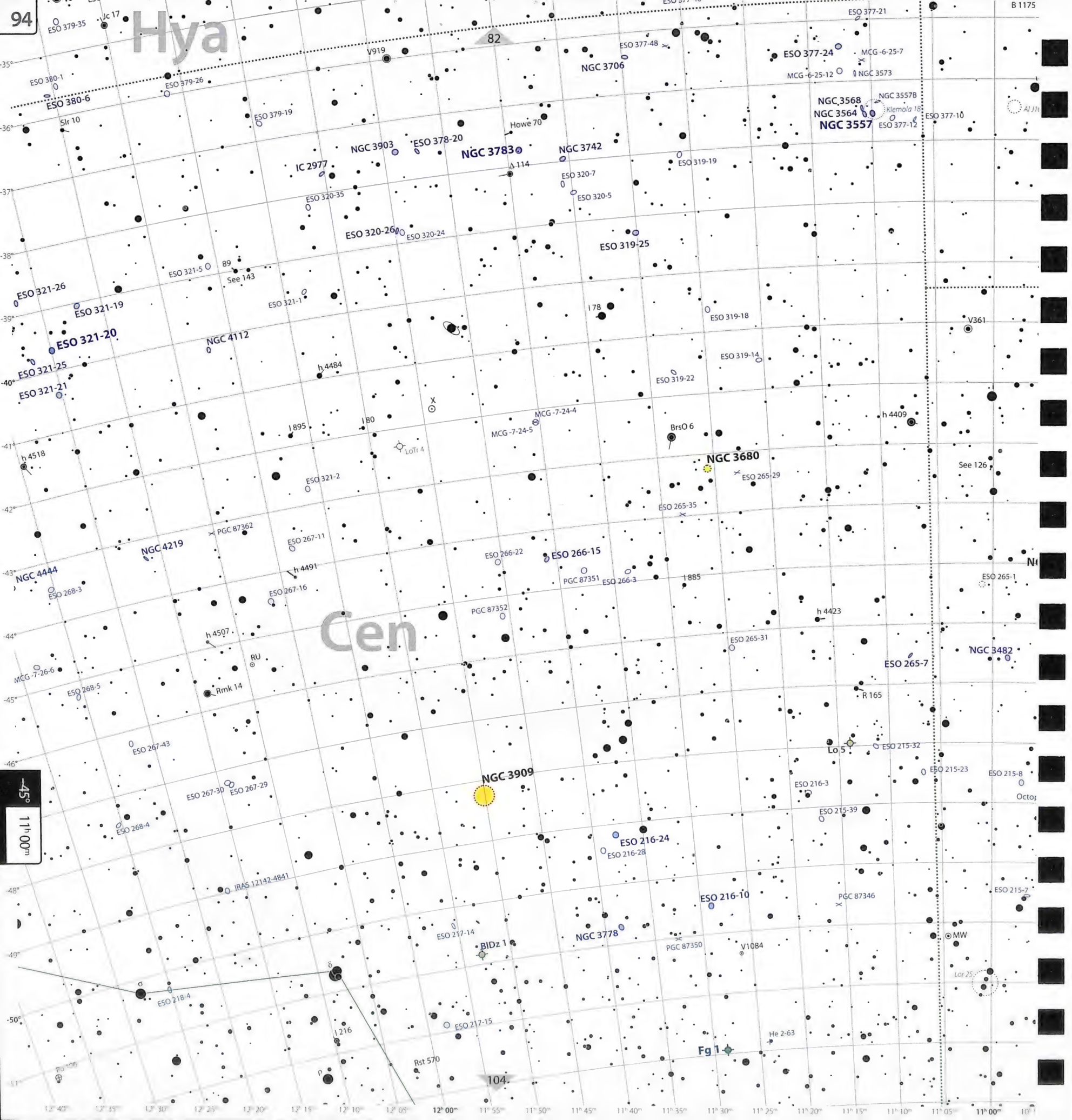




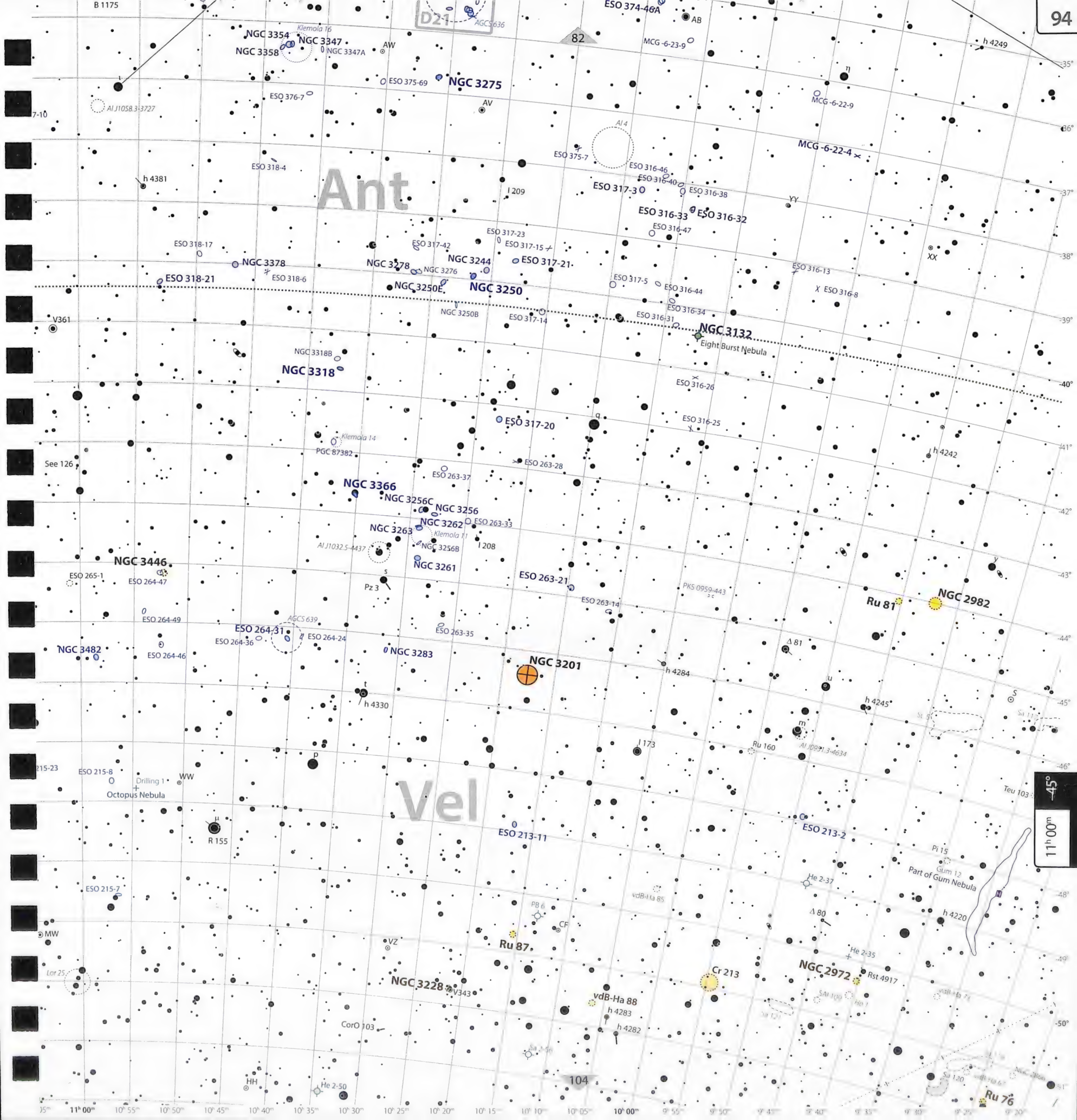




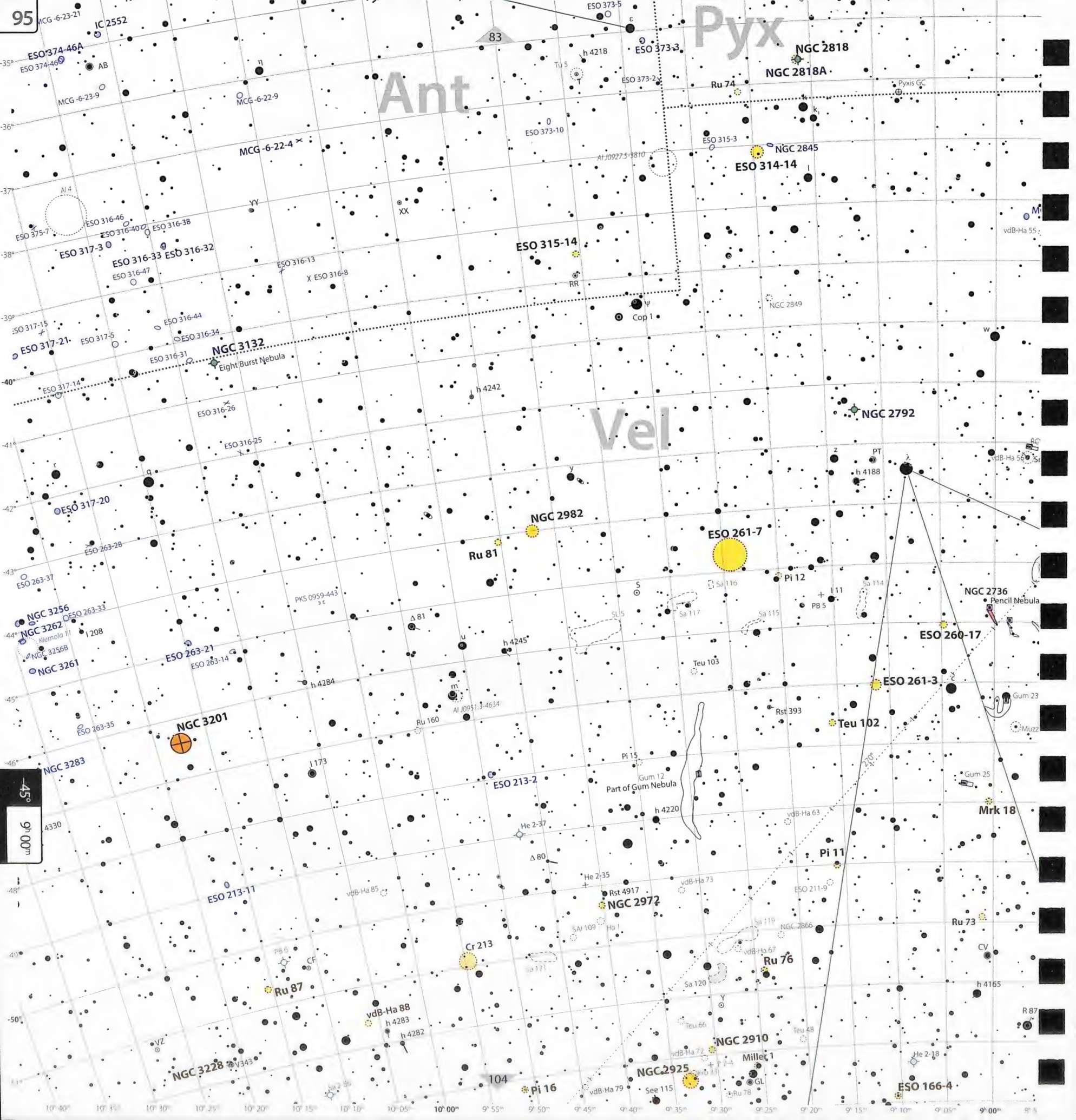




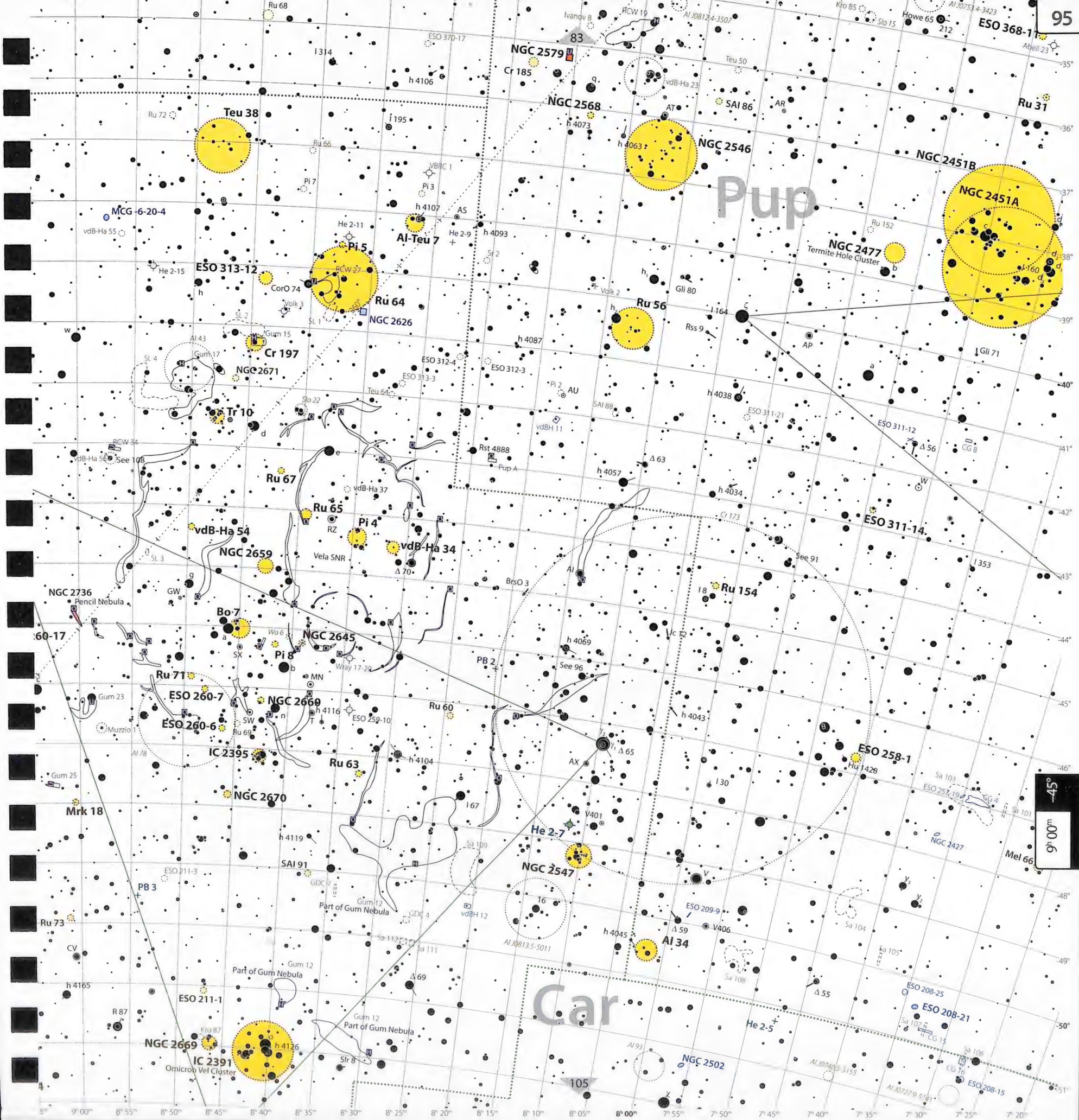




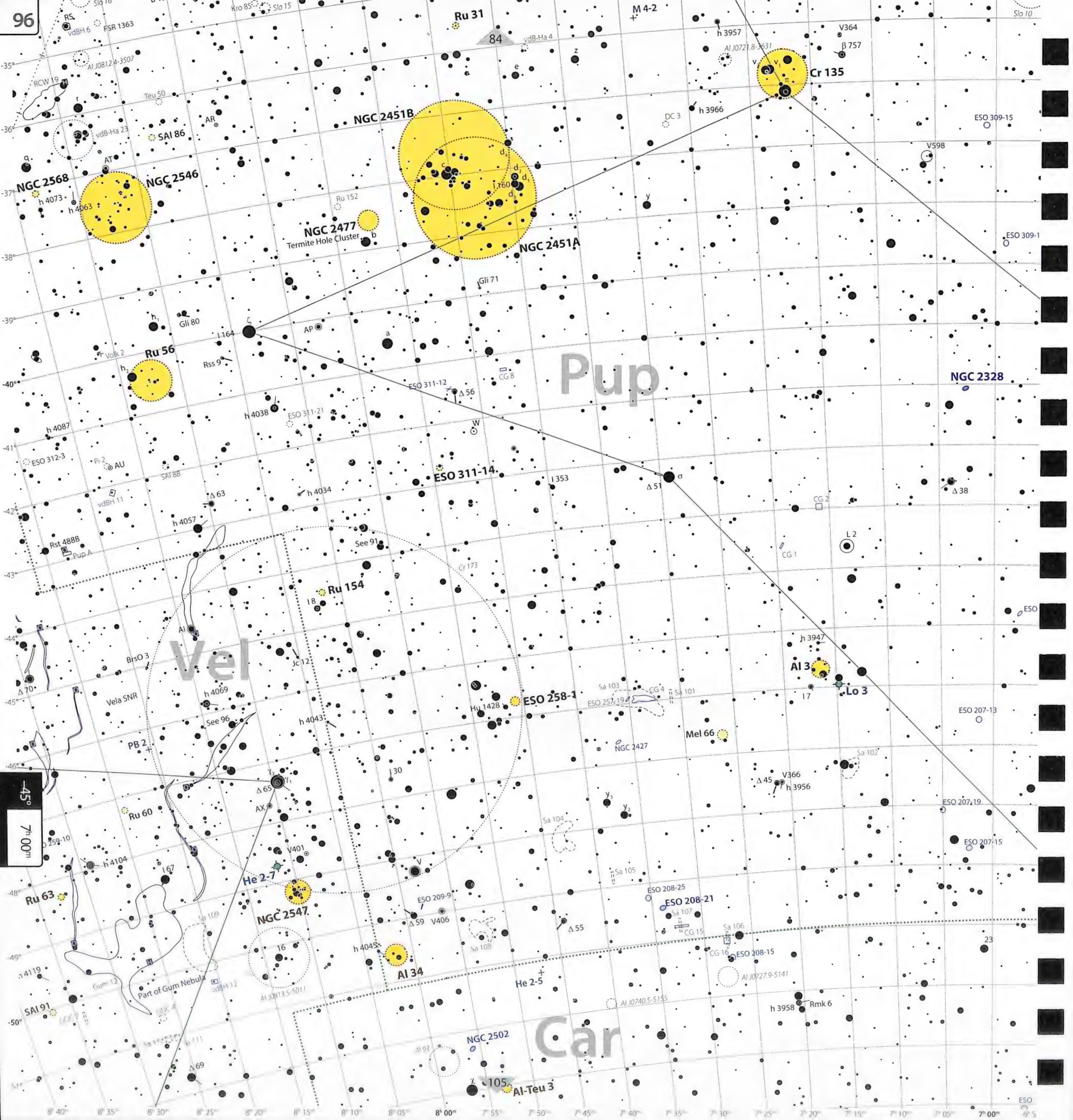




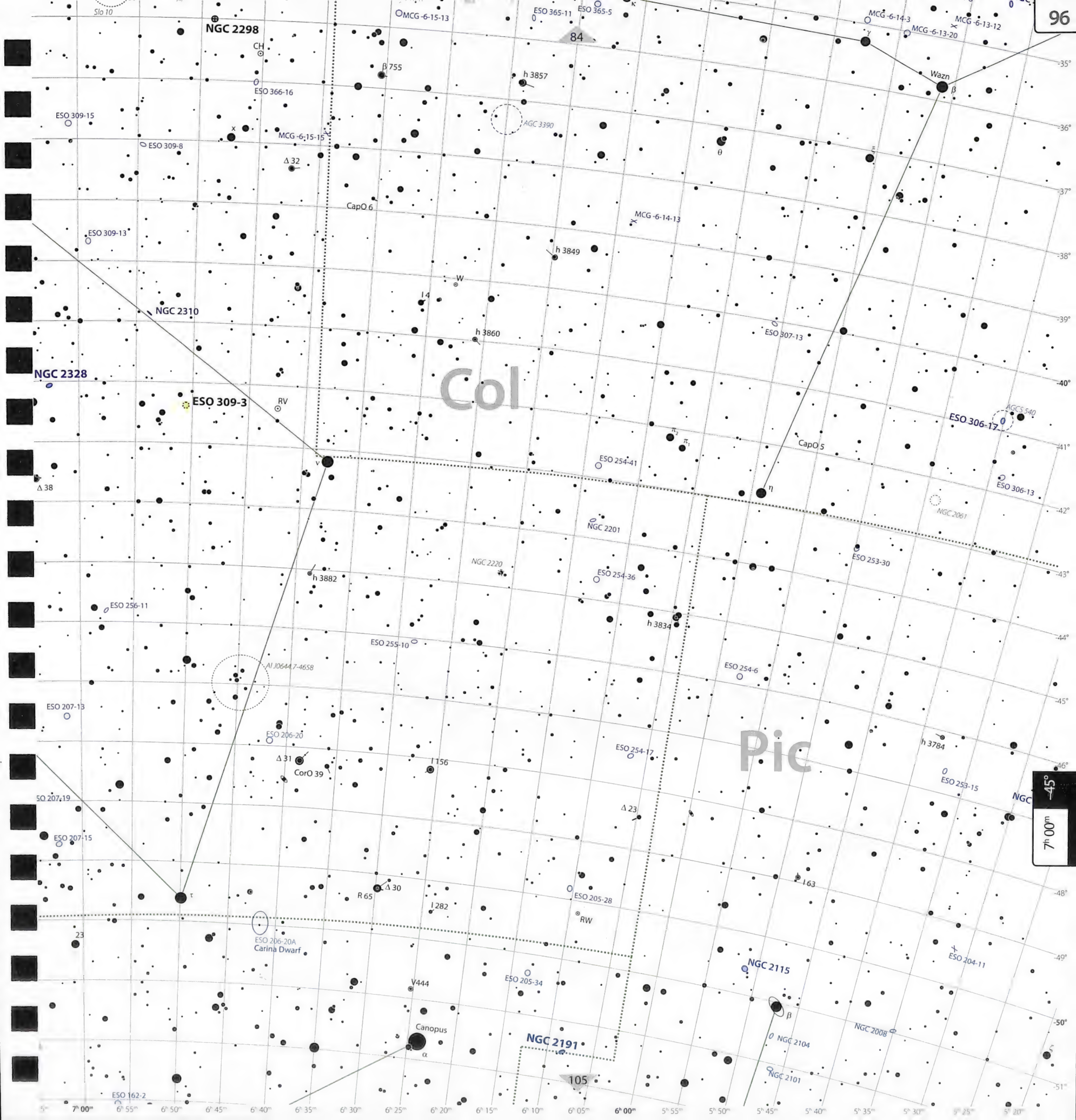


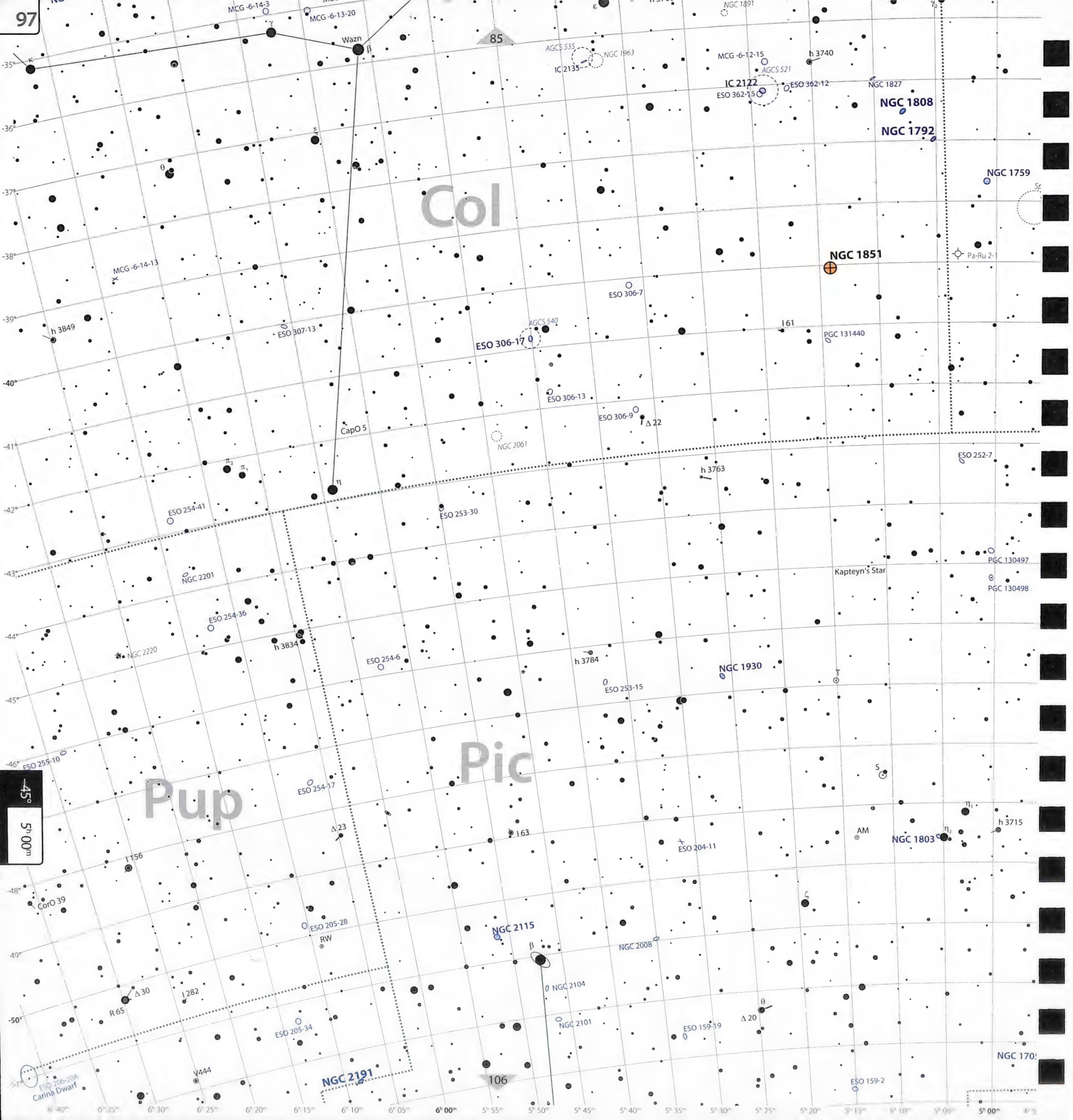




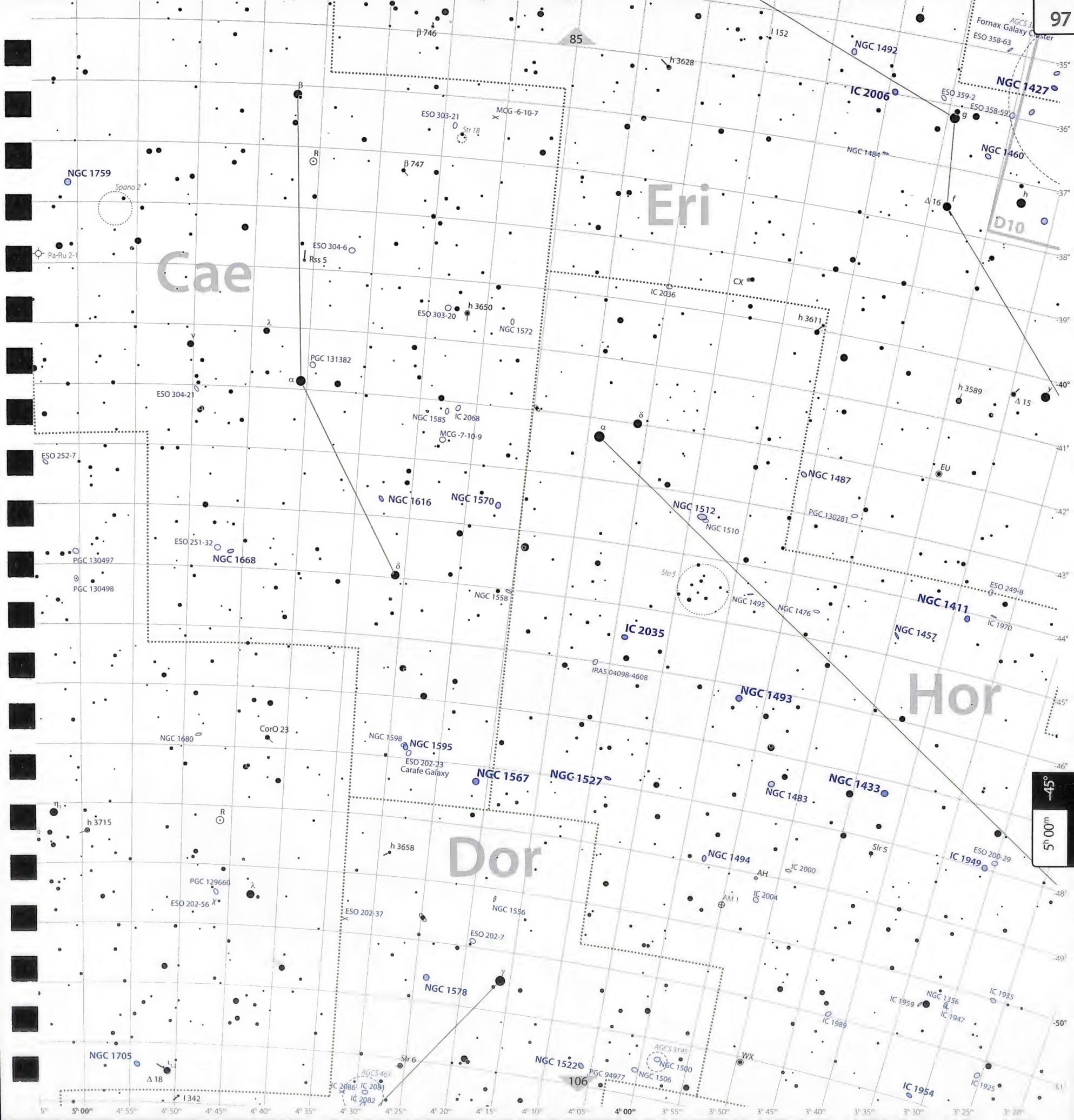


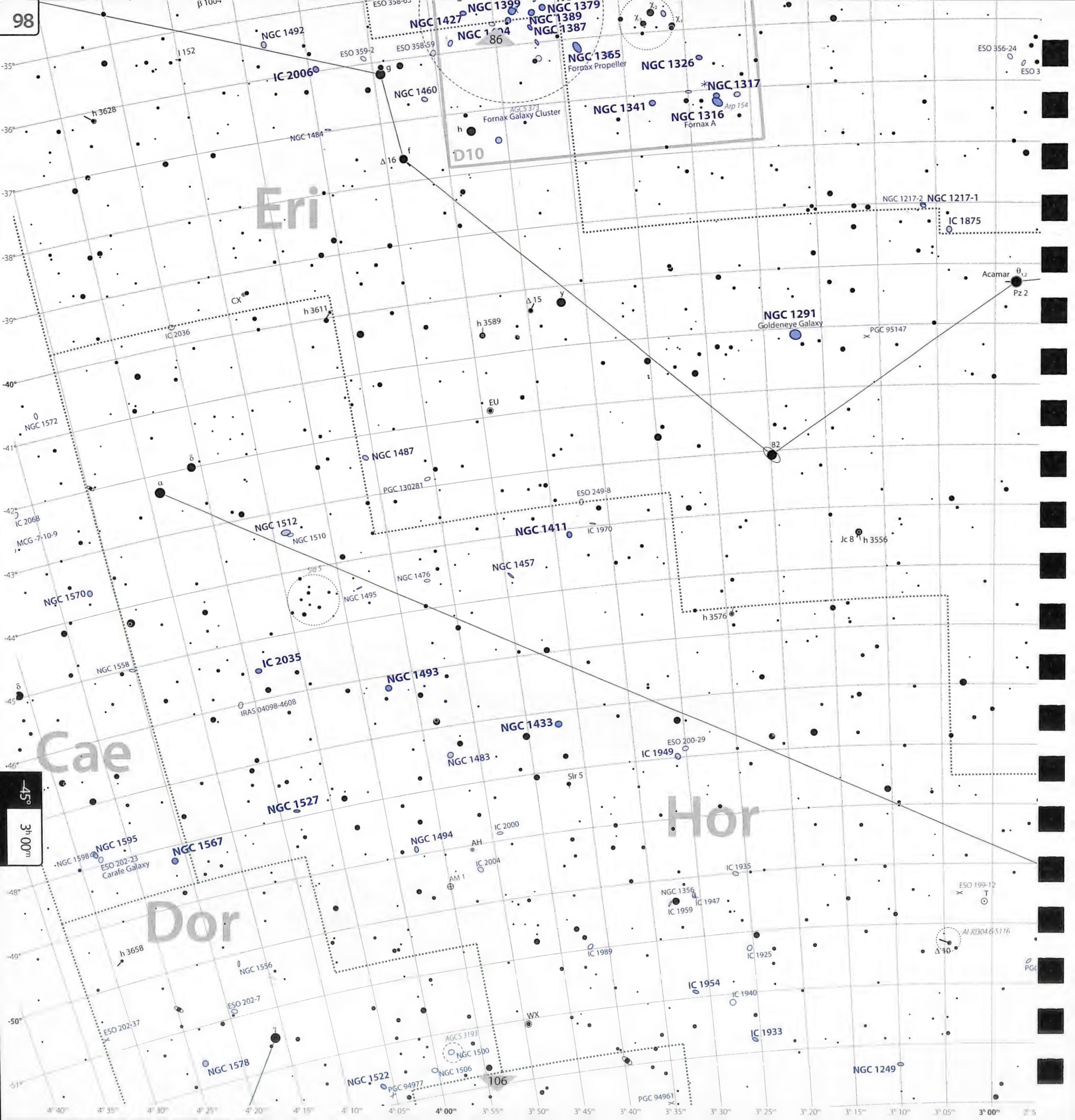












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3h 00m

4h 40m 4h 35m 4h 30m 4h 25m 4h 20m 4h 15m 4h 10m 4h 05m 4h 00m 3h 55m 3h 50m 3h 45m 3h 40m 3h 35m 3h 30m 3h 25m 3h 20m 3h 15m 3h 10m 3h 05m 3h 00m 2h 5m



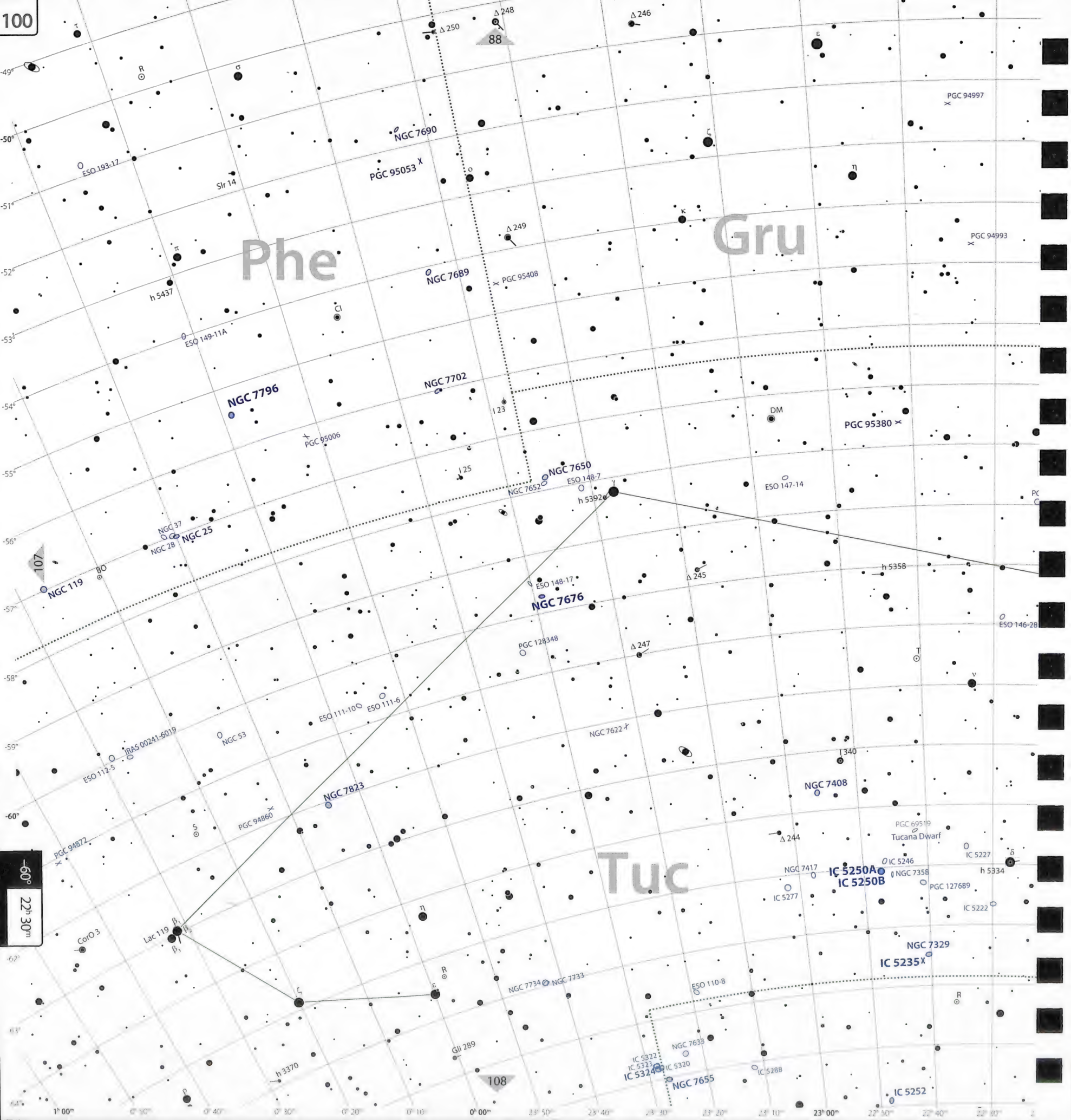




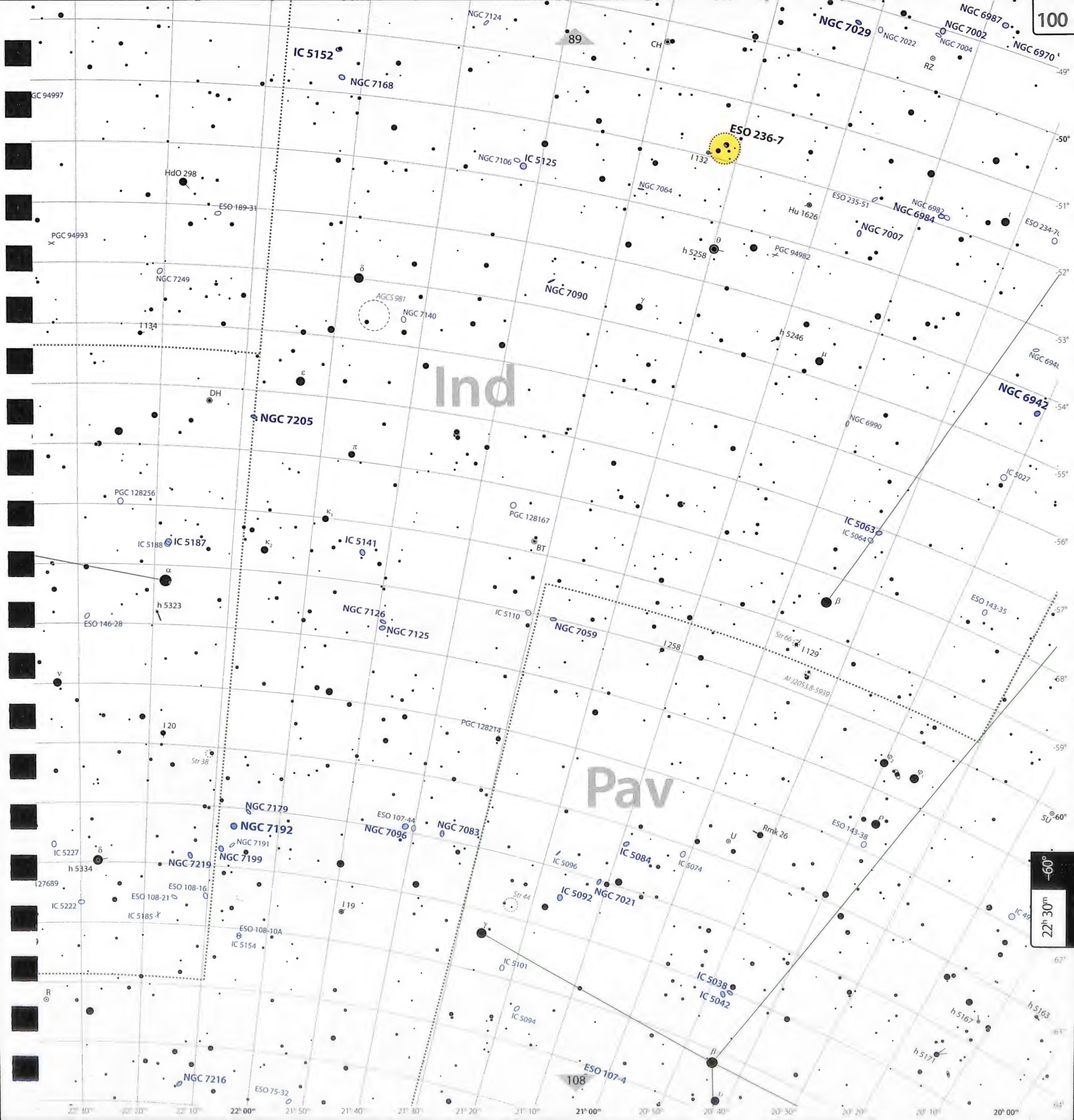


This astronomical chart displays the constellations Sculptor (Scl) and Phe. The chart includes a grid of right ascension and declination lines. Key features include:

- Constellation Labels:** Scl (Sculptor) and Phe (Pheasant) are prominently displayed in large, stylized letters.
- Stars:** Numerous stars are plotted, with several labeled by Greek letters (e.g.,  $\alpha$ ,  $\beta$ ,  $\gamma$ ) and names (e.g., Ankaa, Hu 1550, h 3365, h 5437).
- Galaxies:** A large number of galaxies are marked, including NGC 300 (Sculptor Pinwheel), NGC 55 (String of Pearls Galaxy), NGC 98, NGC 774, NGC 7690, NGC 312, NGC 323, NGC 348, NGC 322-1, NGC 319, NGC 324, NGC 368, NGC 264, NGC 295-12, NGC 295-13, NGC 242-14, NGC 242-17, NGC 242-18, NGC 242-19, NGC 242-20, NGC 242-21, NGC 242-22, NGC 242-23, NGC 242-24, NGC 242-25, NGC 242-26, NGC 242-27, NGC 242-28, NGC 242-29, NGC 242-30, NGC 242-31, NGC 242-32, NGC 242-33, NGC 242-34, NGC 242-35, NGC 242-36, NGC 242-37, NGC 242-38, NGC 242-39, NGC 242-40, NGC 242-41, NGC 242-42, NGC 242-43, NGC 242-44, NGC 242-45, NGC 242-46, NGC 242-47, NGC 242-48, NGC 242-49, NGC 242-50, NGC 242-51, NGC 242-52, NGC 242-53, NGC 242-54, NGC 242-55, NGC 242-56, NGC 242-57, NGC 242-58, NGC 242-59, NGC 242-60, NGC 242-61, NGC 242-62, NGC 242-63, NGC 242-64, NGC 242-65, NGC 242-66, NGC 242-67, NGC 242-68, NGC 242-69, NGC 242-70, NGC 242-71, NGC 242-72, NGC 242-73, NGC 242-74, NGC 242-75, NGC 242-76, NGC 242-77, NGC 242-78, NGC 242-79, NGC 242-80, NGC 242-81, NGC 242-82, NGC 242-83, NGC 242-84, NGC 242-85, NGC 242-86, NGC 242-87, NGC 242-88, NGC 242-89, NGC 242-90, NGC 242-91, NGC 242-92, NGC 242-93, NGC 242-94, NGC 242-95, NGC 242-96, NGC 242-97, NGC 242-98, NGC 242-99, NGC 242-100, NGC 242-101, NGC 242-102, NGC 242-103, NGC 242-104, NGC 242-105, NGC 242-106, NGC 242-107, NGC 242-108, NGC 242-109, NGC 242-110, NGC 242-111, NGC 242-112, NGC 242-113, NGC 242-114, NGC 242-115, NGC 242-116, NGC 242-117, NGC 242-118, NGC 242-119, NGC 242-120, NGC 242-121, NGC 242-122, NGC 242-123, NGC 242-124, NGC 242-125, NGC 242-126, NGC 242-127, NGC 242-128, NGC 242-129, NGC 242-130, NGC 242-131, NGC 242-132, NGC 242-133, NGC 242-134, NGC 242-135, NGC 242-136, NGC 242-137, NGC 242-138, NGC 242-139, NGC 242-140, NGC 242-141, NGC 242-142, NGC 242-143, NGC 242-144, NGC 242-145, NGC 242-146, NGC 242-147, NGC 242-148, NGC 242-149, NGC 242-150, NGC 242-151, NGC 242-152, NGC 242-153, NGC 242-154, NGC 242-155, NGC 242-156, NGC 242-157, NGC 242-158, NGC 242-159, NGC 242-160, NGC 242-161, NGC 242-162, NGC 242-163, NGC 242-164, NGC 242-165, NGC 242-166, NGC 242-167, NGC 242-168, NGC 242-169, NGC 242-170, NGC 242-171, NGC 242-172, NGC 242-173, NGC 242-174, NGC 242-175, NGC 242-176, NGC 242-177, NGC 242-178, NGC 242-179, NGC 242-180, NGC 242-181, NGC 242-182, NGC 242-183, NGC 242-184, NGC 242-185, NGC 242-186, NGC 242-187, NGC 242-188, NGC 242-189, NGC 242-190, NGC 242-191, NGC 242-192, NGC 242-193, NGC 242-194, NGC 242-195, NGC 242-196, NGC 242-197, NGC 242-198, NGC 242-199, NGC 242-200, NGC 242-201, NGC 242-202, NGC 242-203, NGC 242-204, NGC 242-205, NGC 242-206, NGC 242-207, NGC 242-208, NGC 242-209, NGC 242-210, NGC 242-211, NGC 242-212, NGC 242-213, NGC 242-214, NGC 242-215, NGC 242-216, NGC 242-217, NGC 242-218, NGC 242-219, NGC 242-220, NGC 242-221, NGC 242-222, NGC 242-223, NGC 242-224, NGC 242-225, NGC 242-226, NGC 242-227, NGC 242-228, NGC 242-229, NGC 242-230, NGC 242-231, NGC 242-232, NGC 242-233, NGC 242-234, NGC 242-235, NGC 242-236, NGC 242-237, NGC 242-238, NGC 242-239, NGC 242-240, NGC 242-241, NGC 242-242, NGC 242-243, NGC 242-244, NGC 242-245, NGC 242-246, NGC 242-247, NGC 242-248, NGC 242-249, NGC 242-250, NGC 242-251, NGC 242-252, NGC 242-253, NGC 242-254, NGC 242-255, NGC 242-256, NGC 242-257, NGC 242-258, NGC 242-259, NGC 242-260, NGC 242-261, NGC 242-262, NGC 242-263, NGC 242-264, NGC 242-265, NGC 242-266, NGC 242-267, NGC 242-268, NGC 242-269, NGC 242-270, NGC 242-271, NGC 242-272, NGC 242-273, NGC 242-274, NGC 242-275, NGC 242-276, NGC 242-277, NGC 242-278, NGC 242-279, NGC 242-280, NGC 242-281, NGC 242-282, NGC 242-283, NGC 242-284, NGC 242-285, NGC 242-286, NGC 242-287, NGC 242-288, NGC 242-289, NGC 242-290, NGC 242-291, NGC 242-292, NGC 242-293, NGC 242-294, NGC 242-295, NGC 242-296, NGC 242-297, NGC 242-298, NGC 242-299, NGC 242-300, NGC 242-301, NGC 242-302, NGC 242-303, NGC 242-304, NGC 242-305, NGC 242-306, NGC 242-307, NGC 242-308, NGC 242-309, NGC 242-310, NGC 242-311, NGC 242-312, NGC 242-313, NGC 242-314, NGC 242-315, NGC 242-316, NGC 242-317, NGC 242-318, NGC 242-319, NGC 242-320, NGC 242-321, NGC 242-322, NGC 242-323, NGC 242-324, NGC 242-325, NGC 242-326, NGC 242-327, NGC 242-328, NGC 242-329, NGC 242-330, NGC 242-331, NGC 242-332, NGC 242-333, NGC 242-334, NGC 242-335, NGC 242-336, NGC 242-337, NGC 242-338, NGC 242-339, NGC 242-340, NGC 242-341, NGC 242-342, NGC 242-343, NGC 242-344, NGC 242-345, NGC 242-346, NGC 242-347, NGC 242-348, NGC 242-349, NGC 242-350, NGC

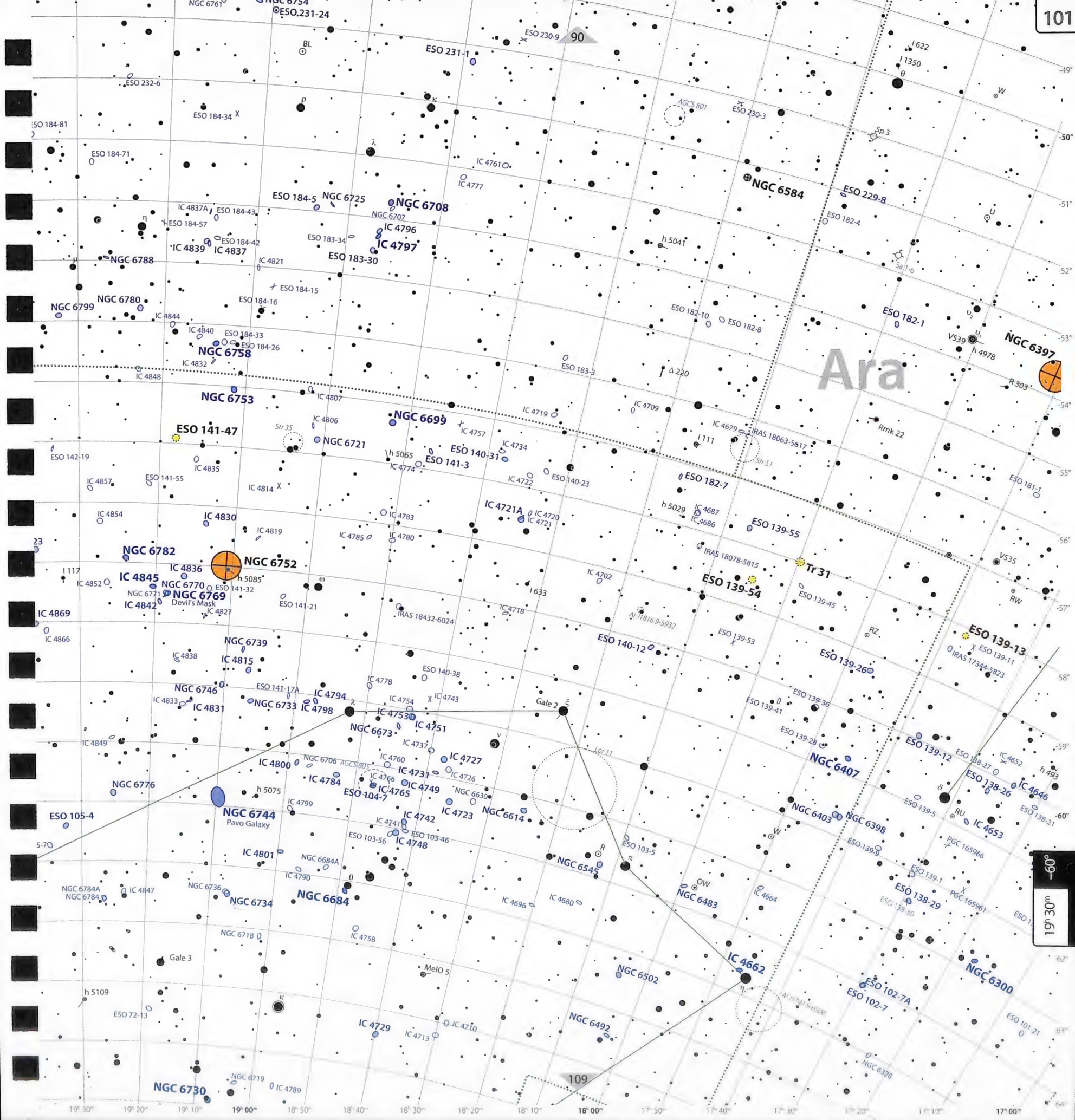






















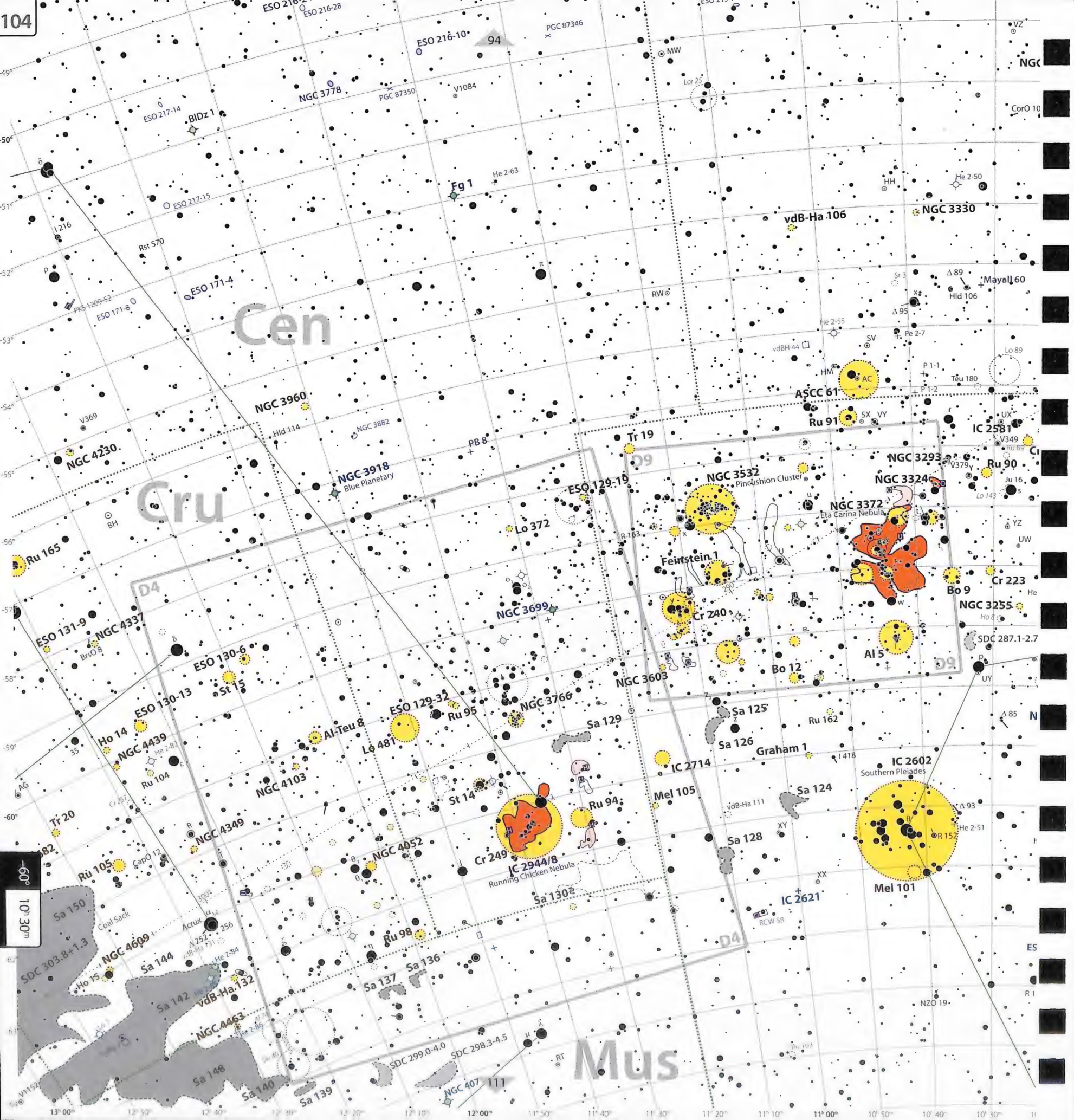




This is a detailed astronomical chart of the Southern Hemisphere, centered on the constellation Centaurus (Cen). The chart features a grid of right ascension (RA) and declination (Dec) coordinates. The RA scale at the bottom ranges from 13h 30m to 11h 00m, and the Dec scale on the right ranges from -49° to -64°. The chart is densely populated with stars, galaxies, and nebulae, many of which are labeled with their names or designations. Key constellations shown include Centaurus (Cen), Crux (Cru), and Musca (Mus). The chart also includes a scale bar in the bottom right corner, indicating a distance of 13h 30m.

This is a detailed astronomical chart of the Southern Hemisphere, centered on the constellation Centaurus (Cen). The chart shows a grid of right ascension and declination, with numerous stars, galaxies, and nebulae labeled. Key features include the constellations Centaurus (Cen), Crux (Cru), and Musca (Mus). The chart is marked with a coordinate grid from 13h 30m to 11h 00m in right ascension and -49° to -64° in declination. Various celestial objects are labeled, including galaxies like NGC 4230, NGC 3960, and NGC 3918, and nebulae like the Boomerang Nebula and the Running Chicken Nebula. The chart also includes labels for constellations like Cen, Cru, and Mus, and a scale bar in the bottom right corner.





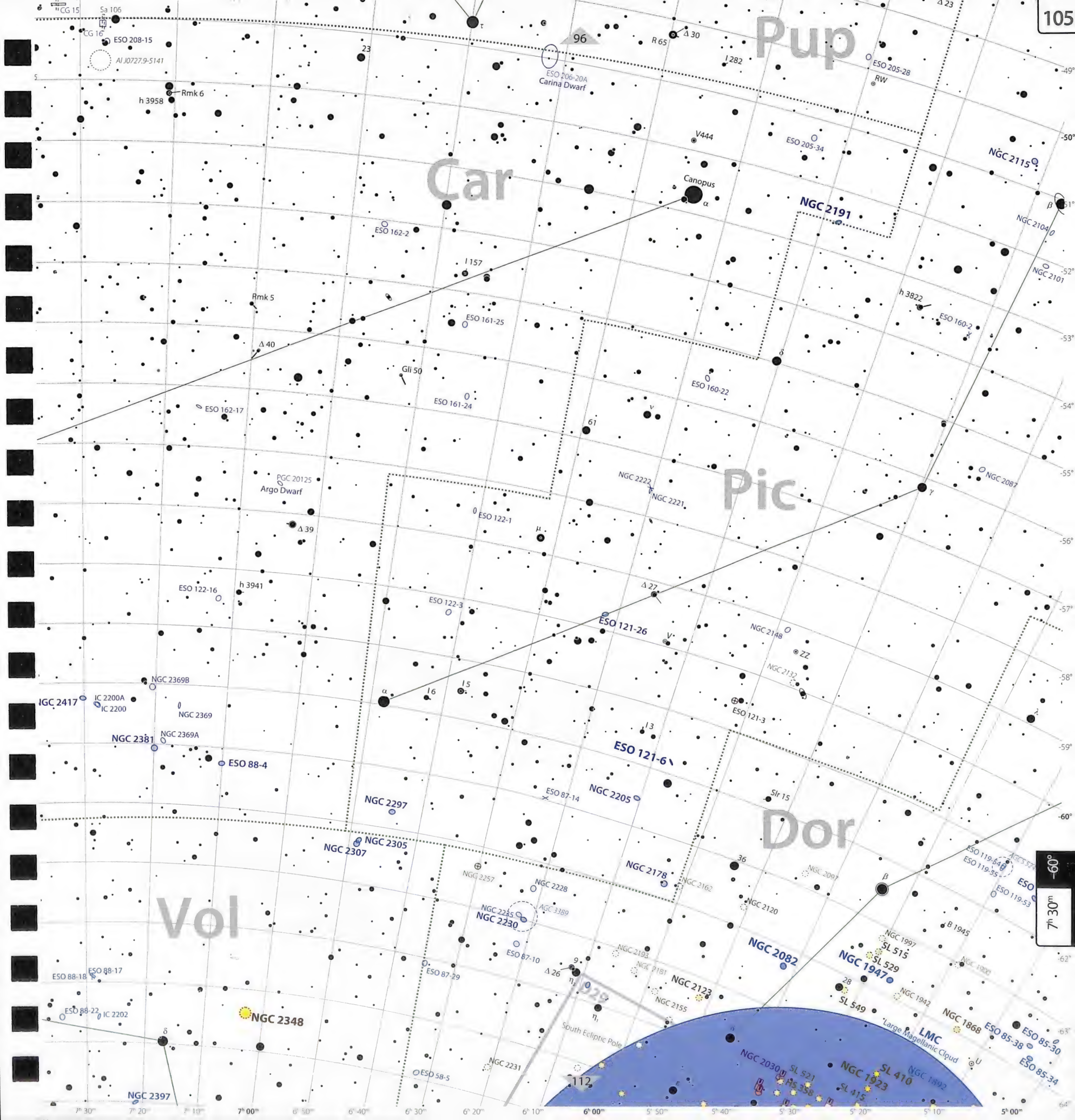








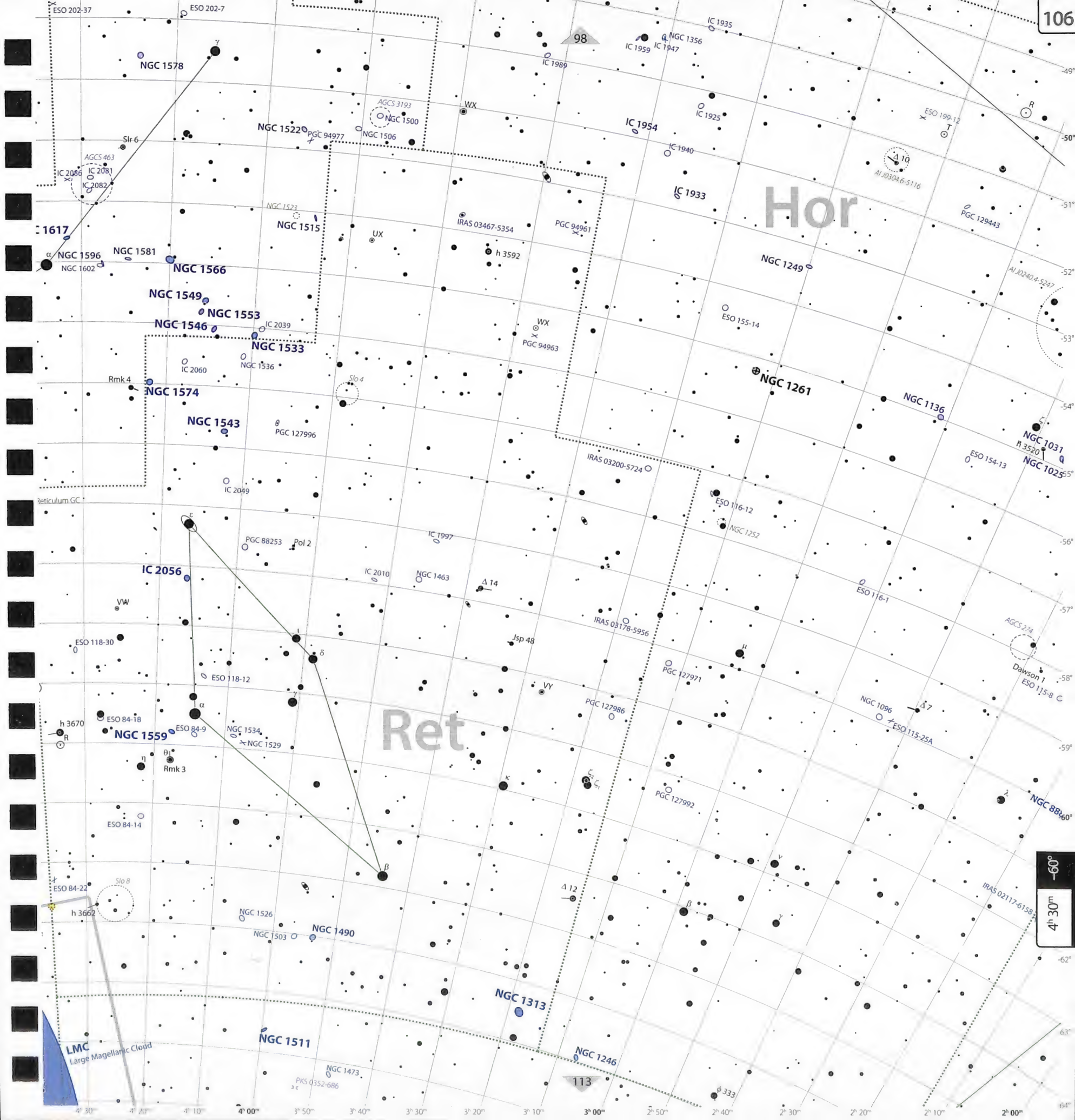


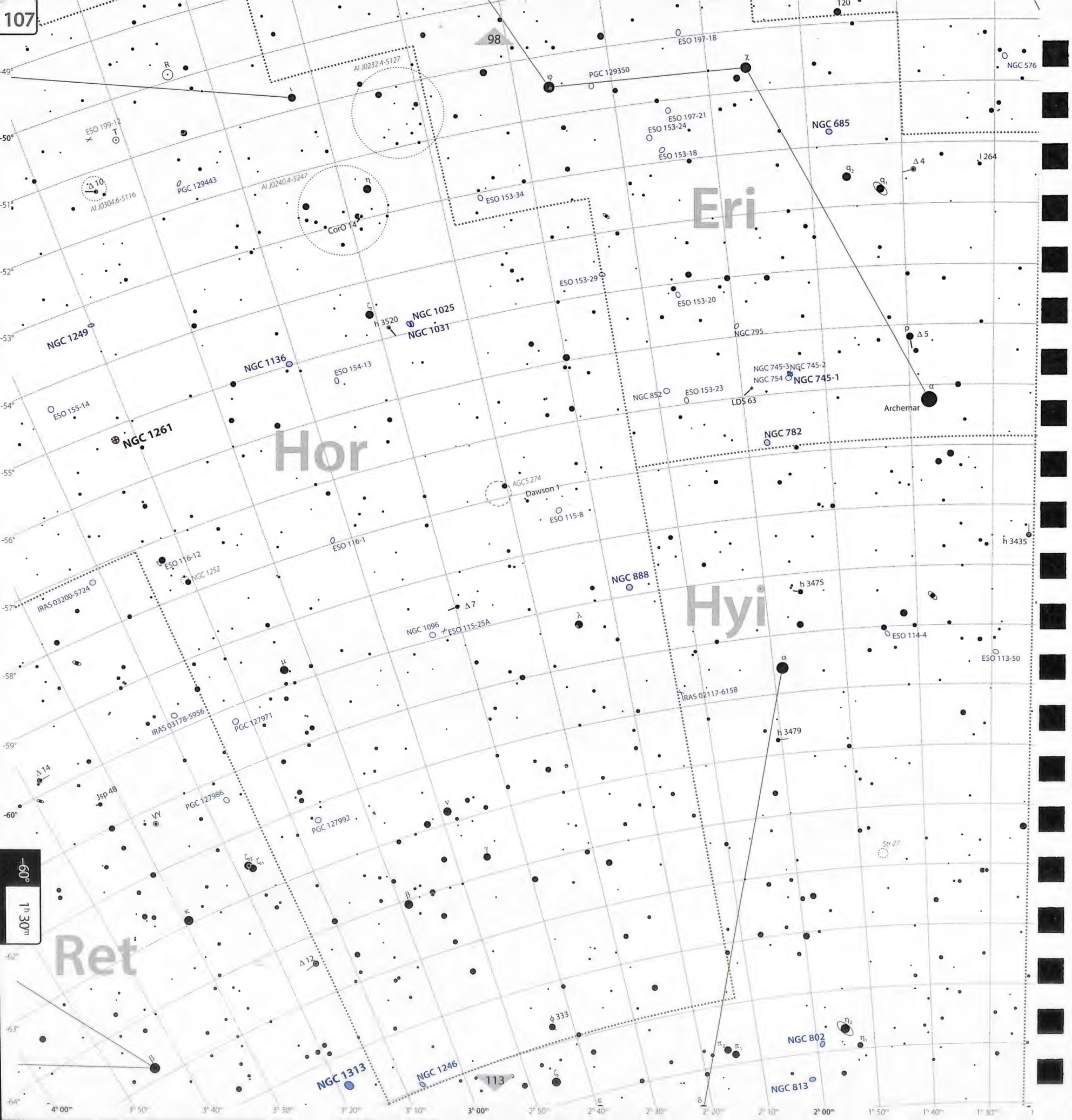




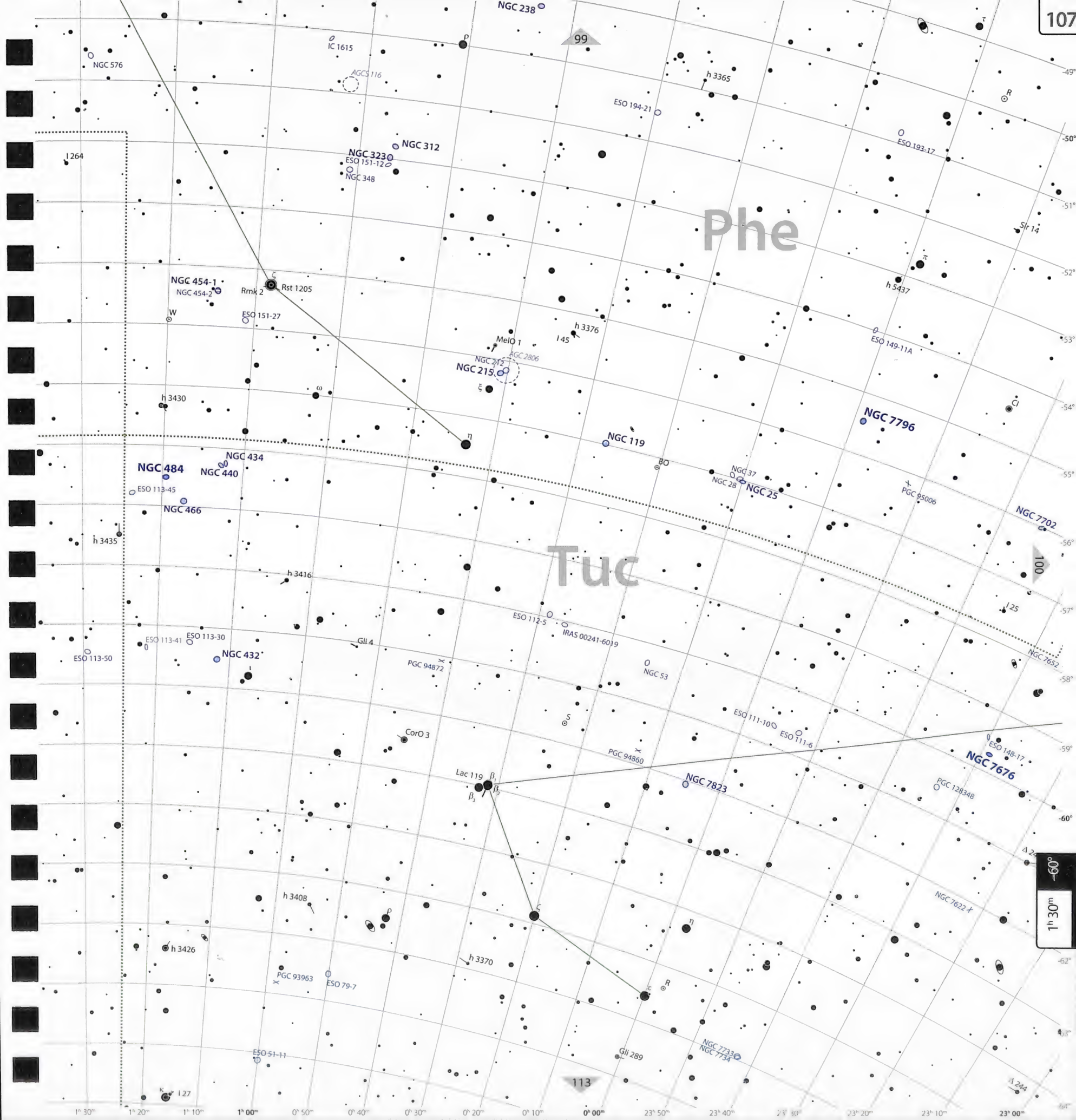


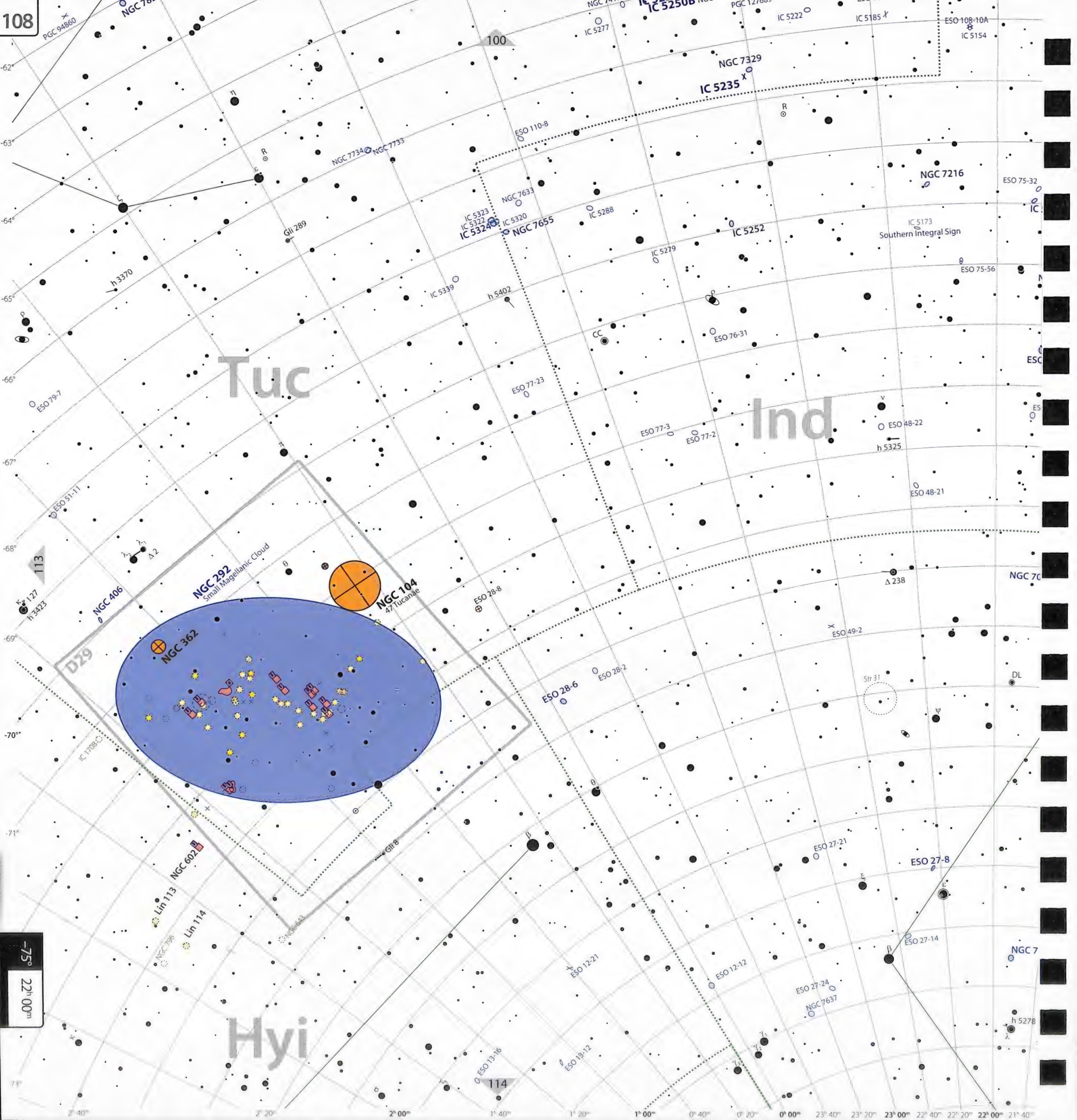






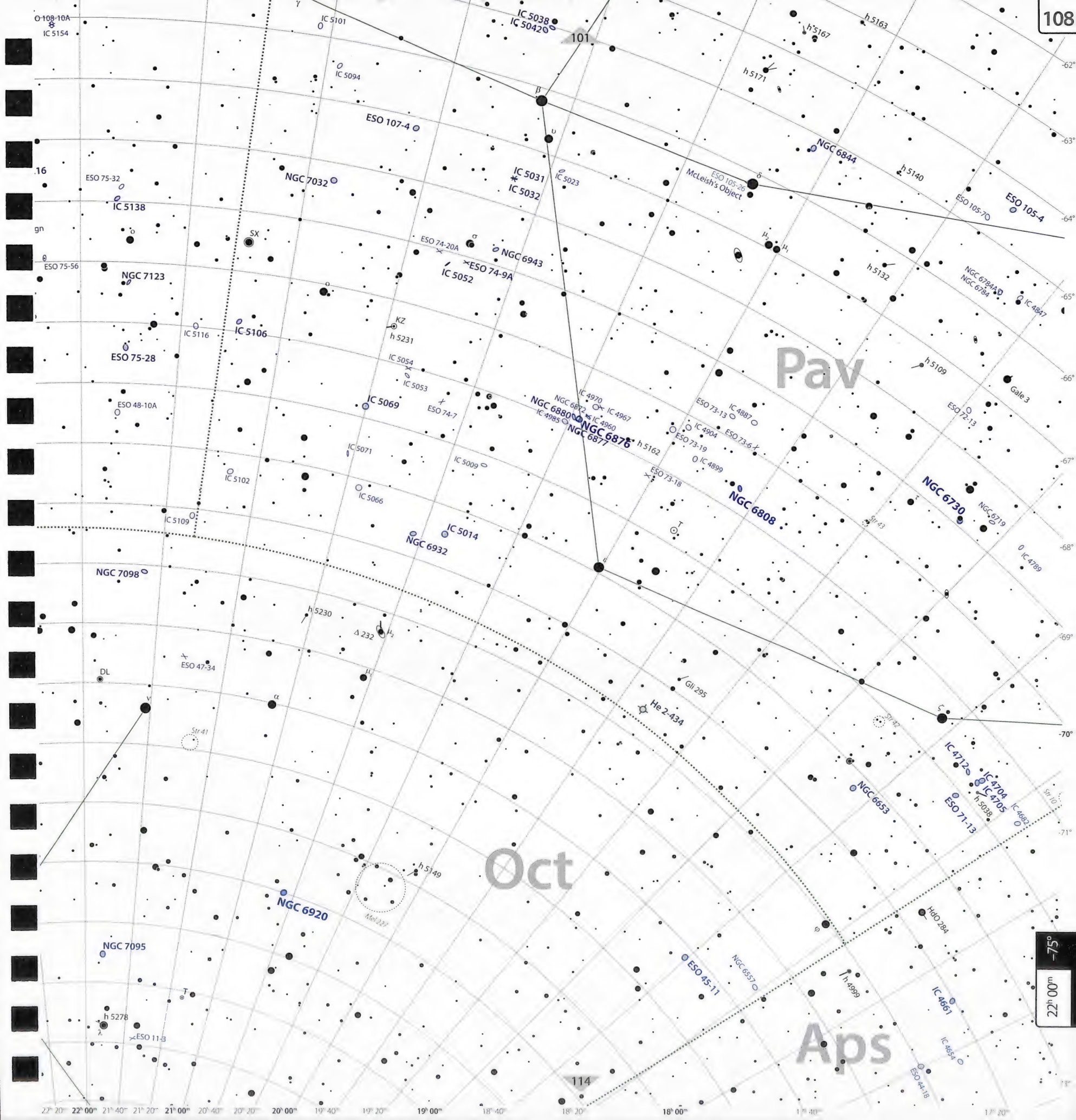




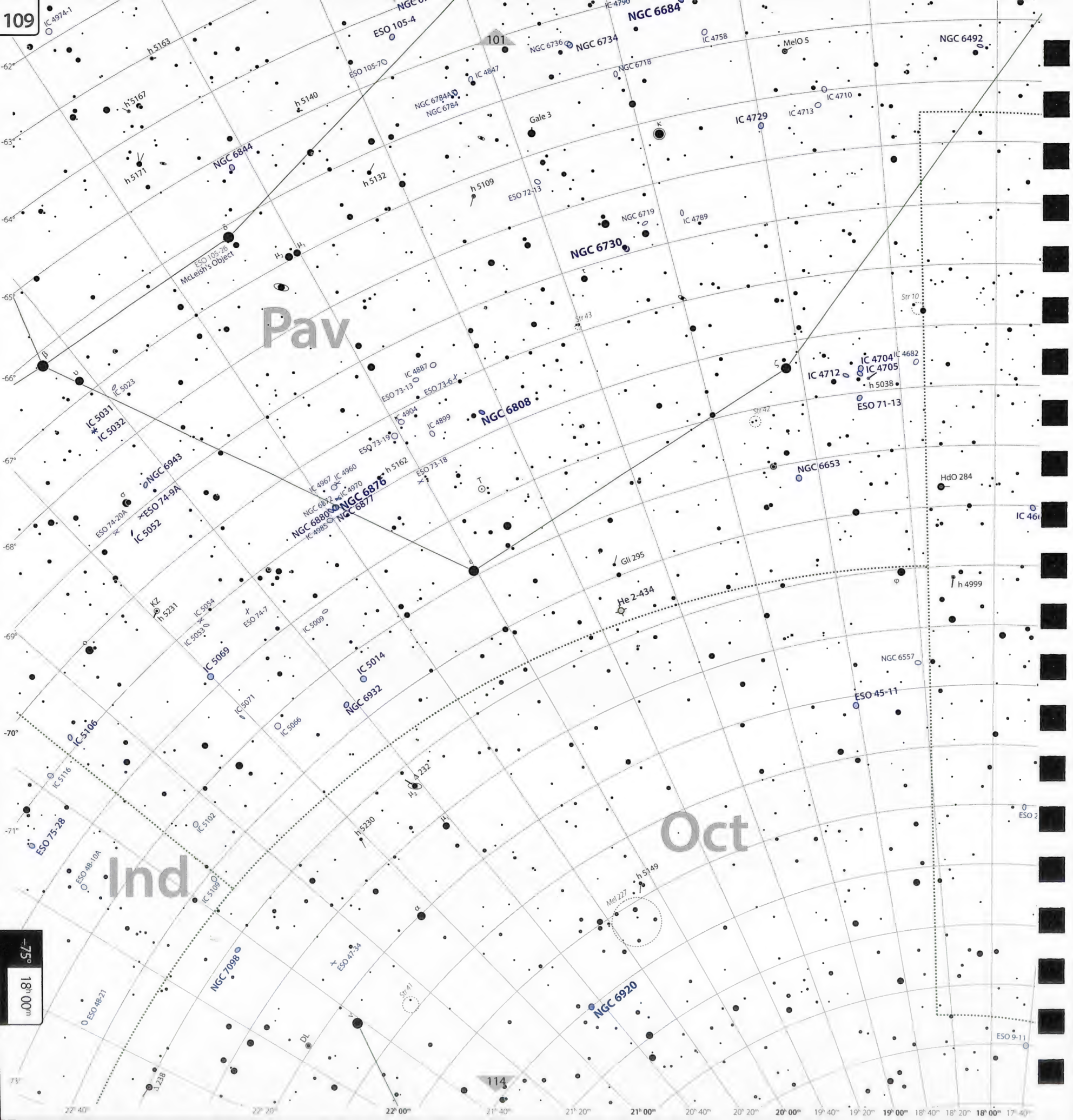


22° 00' 00"





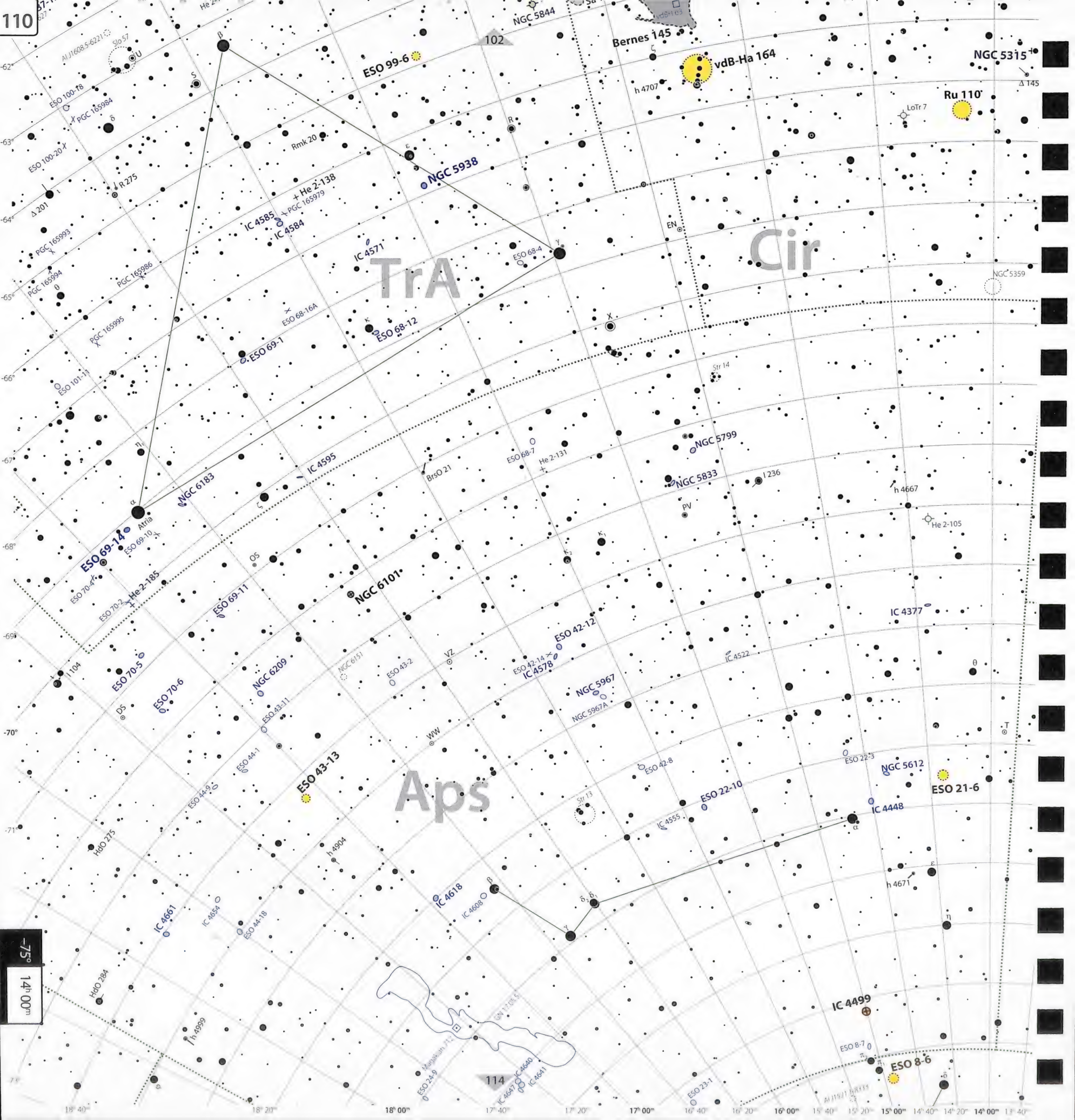






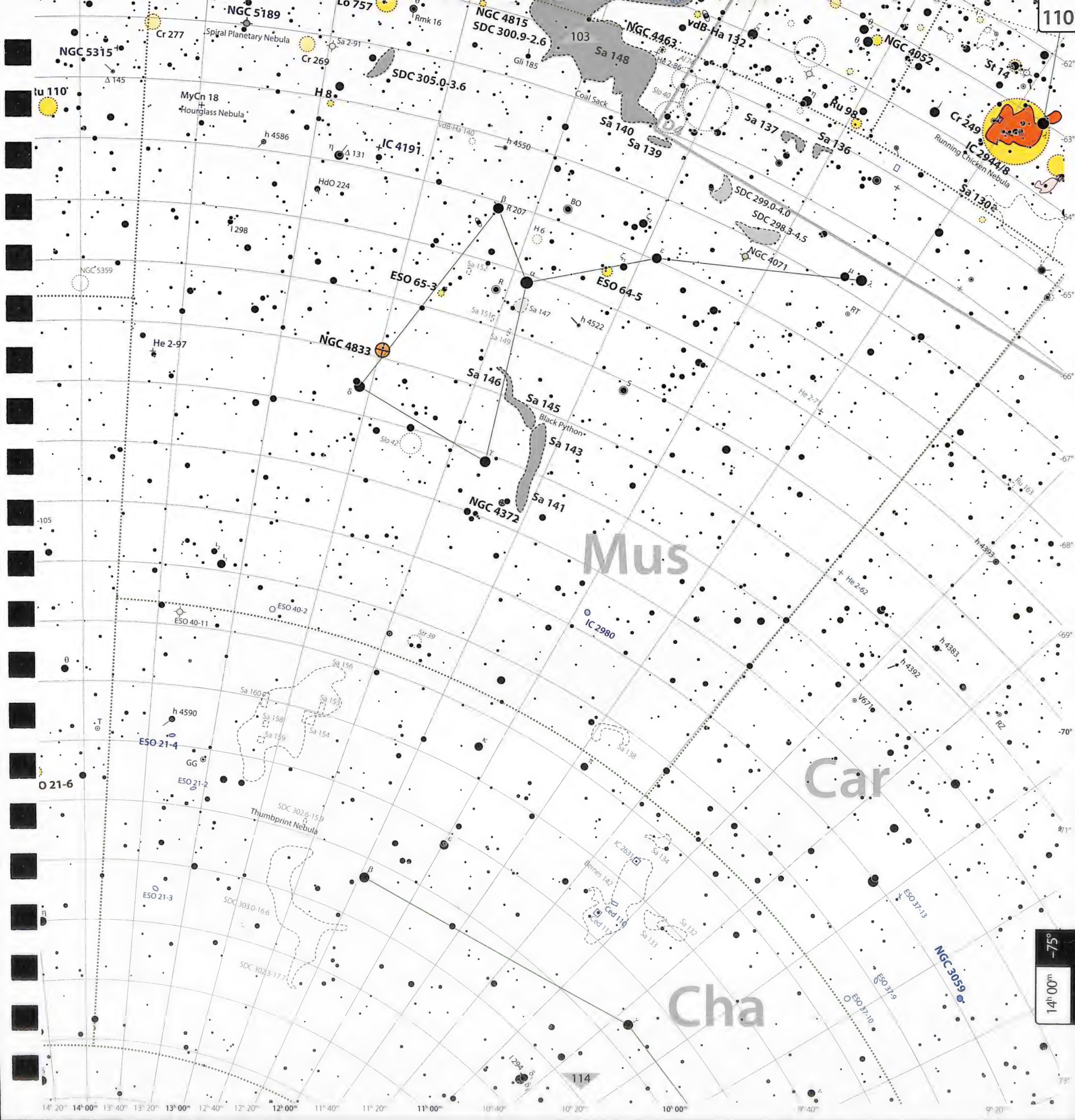






-75°  
14h 00m





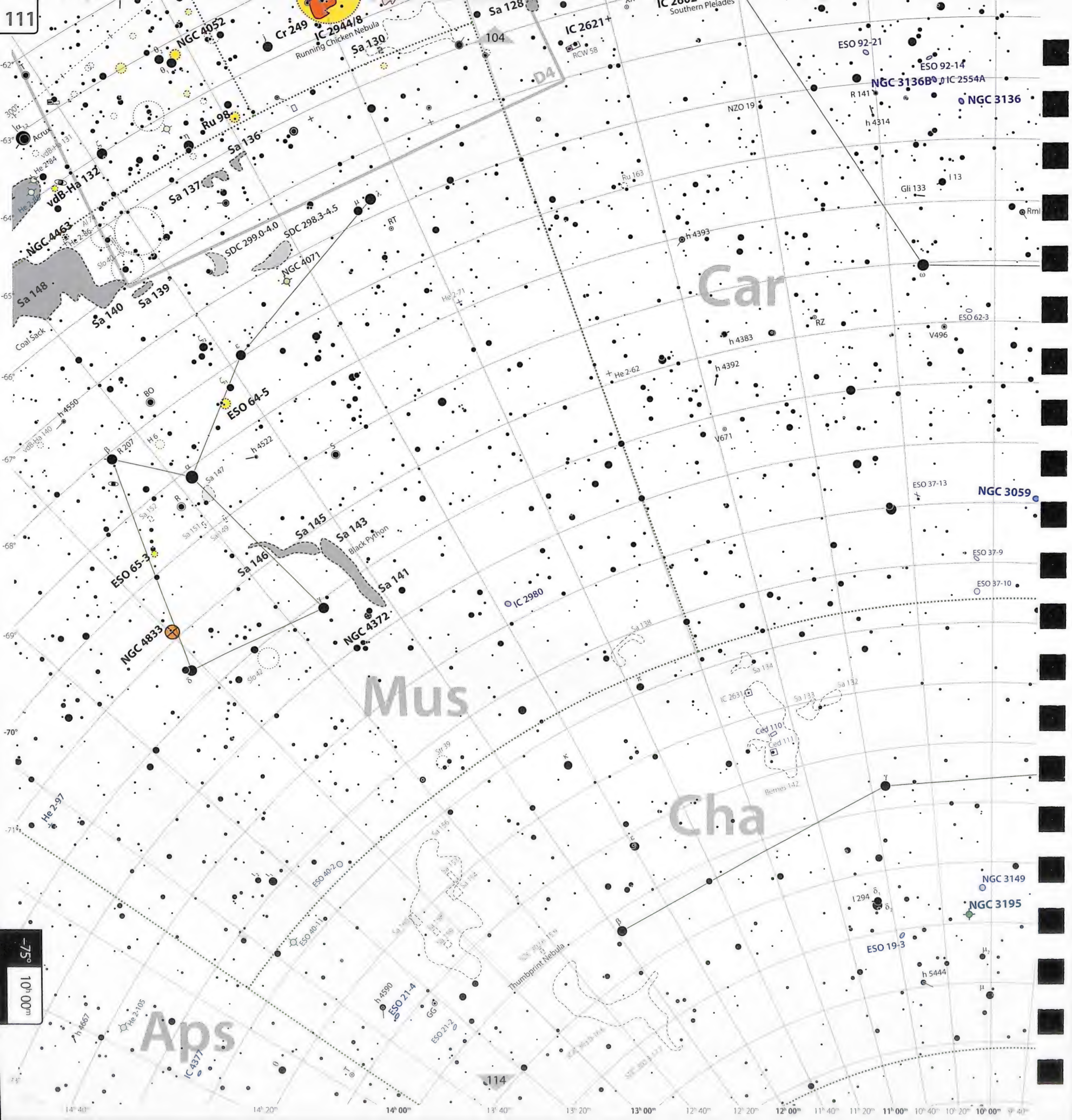
Mus

Car

Cha

14h 00m -75°

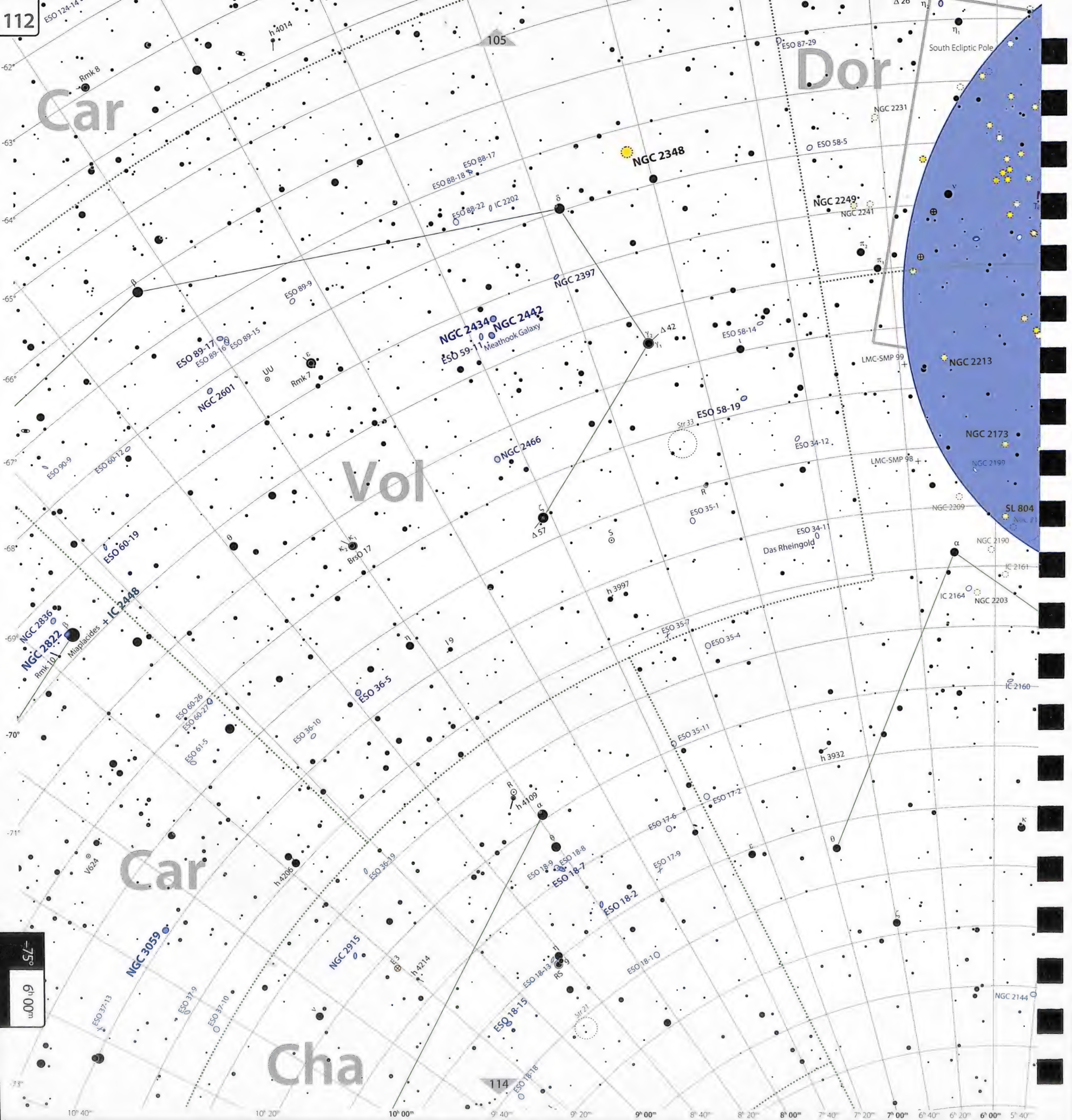




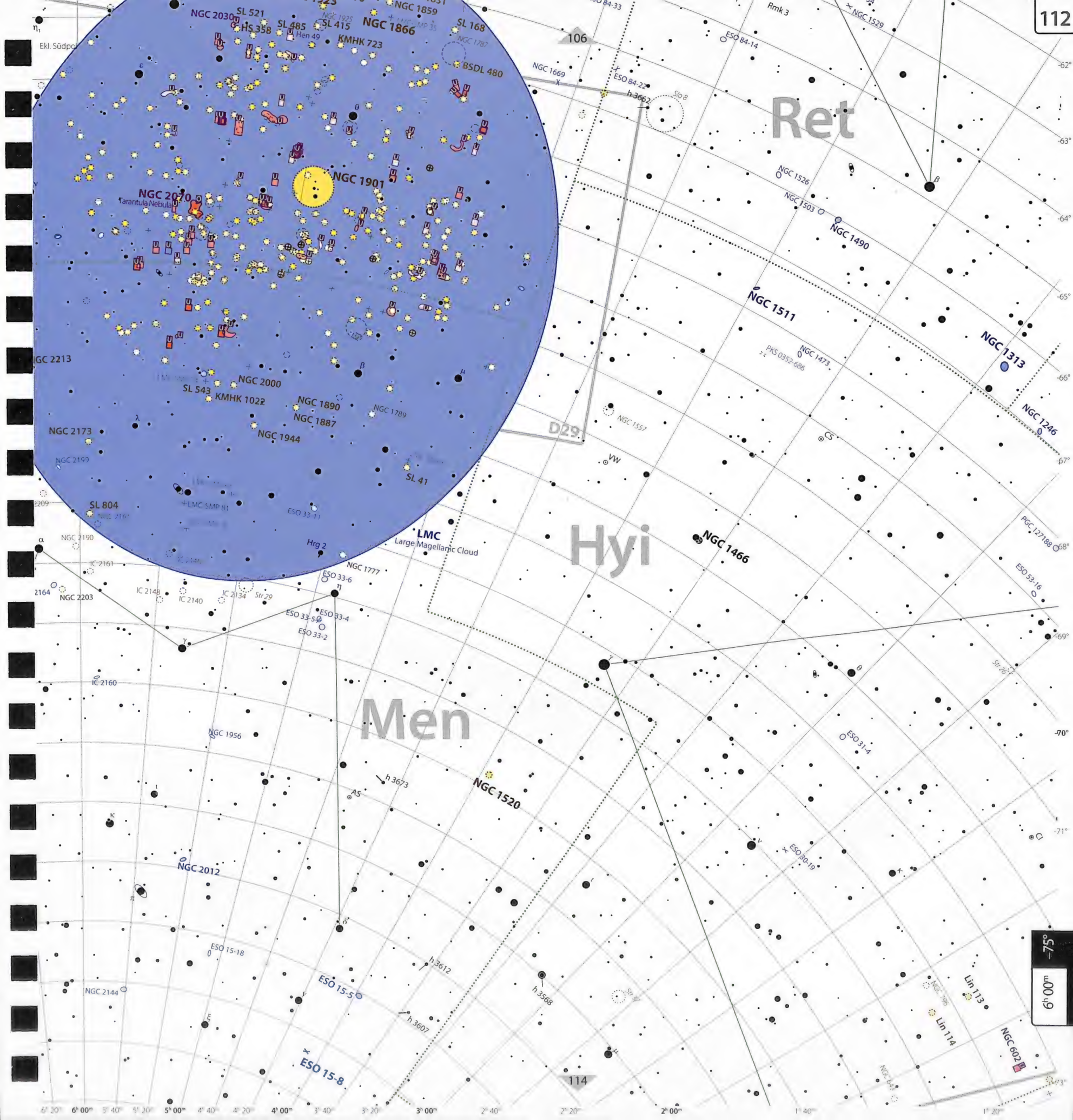




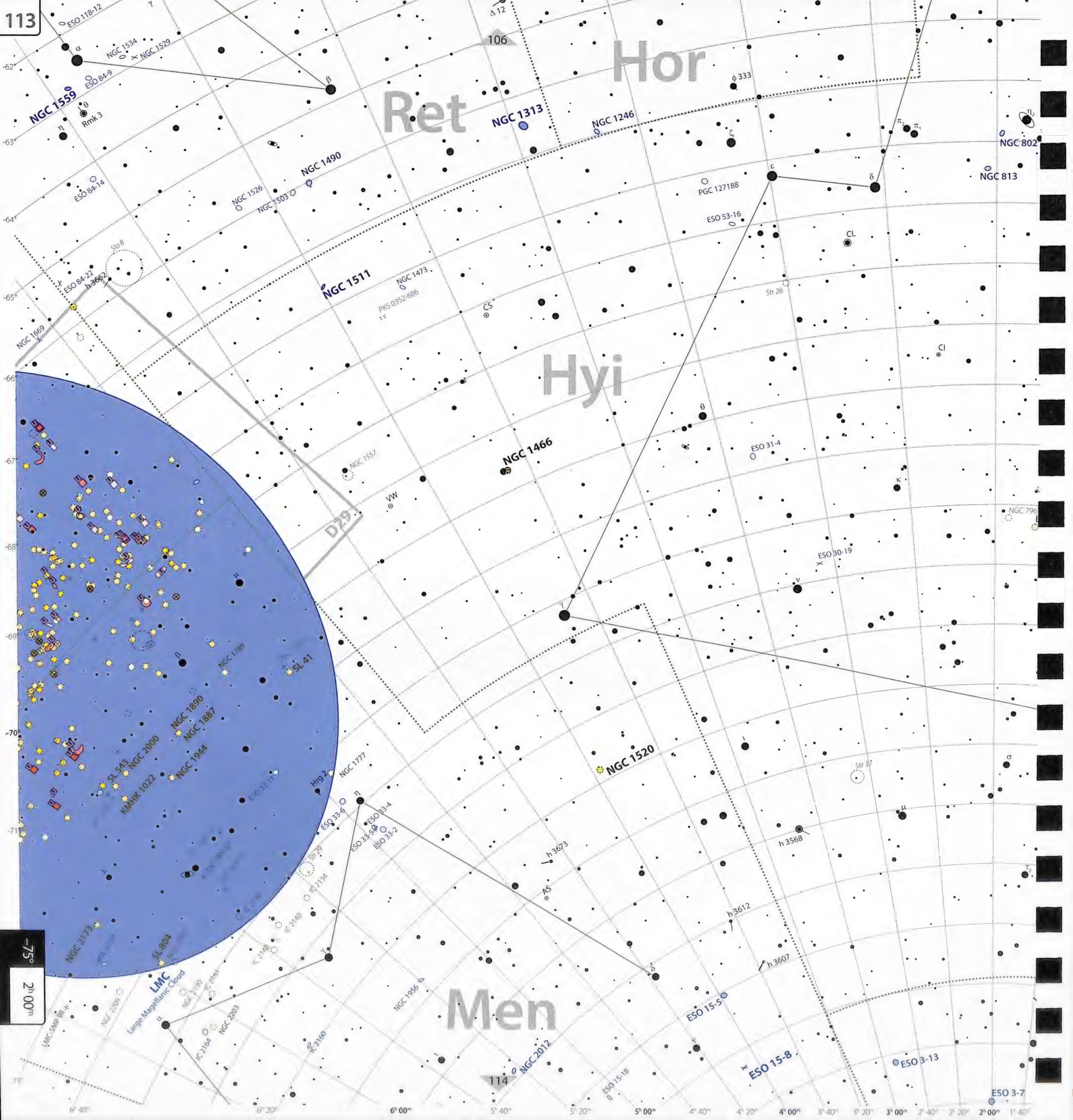












-75°  
2h 00m

Men

Hor

Hyi

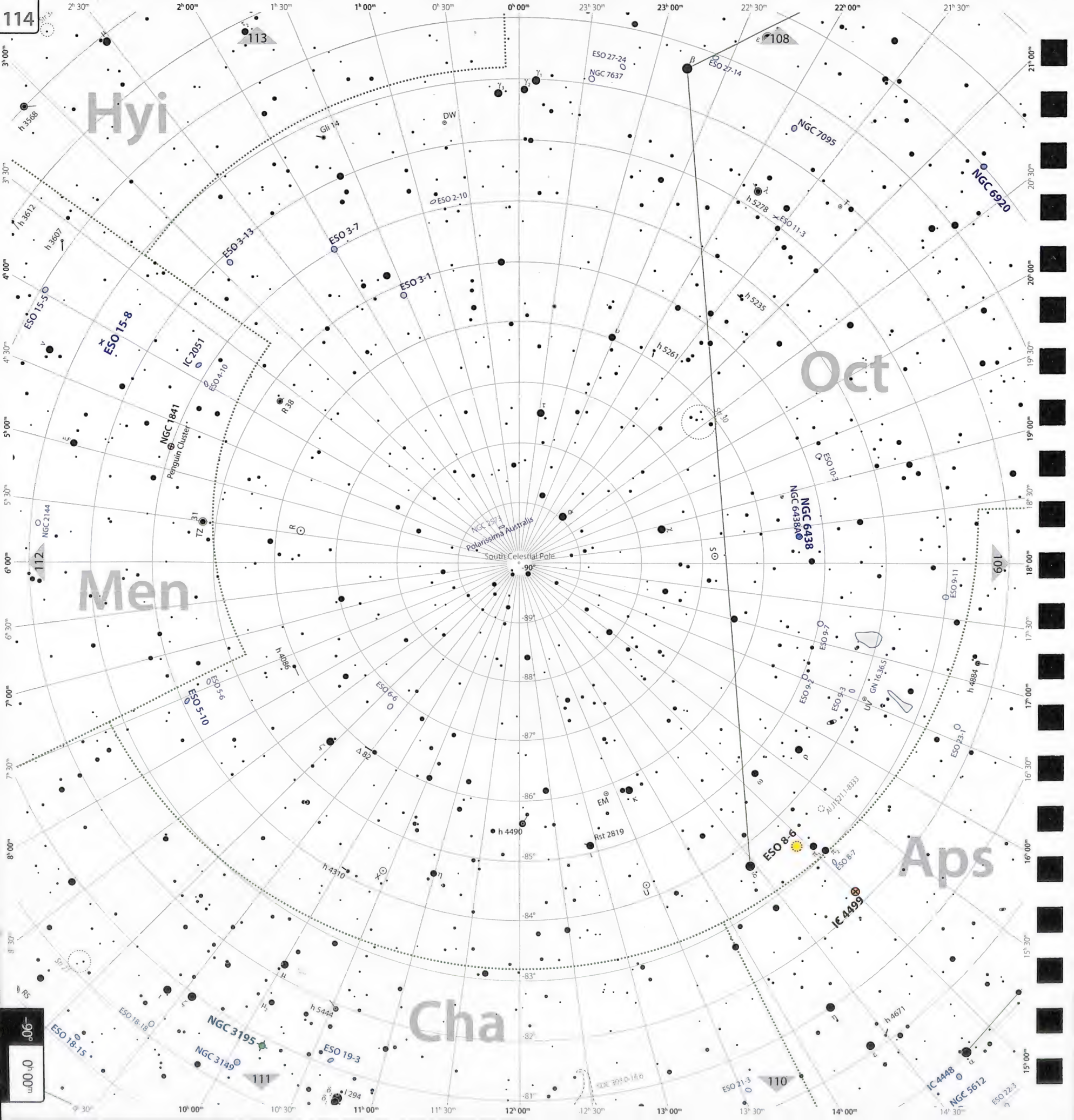
Ret

Large Magellanic Cloud





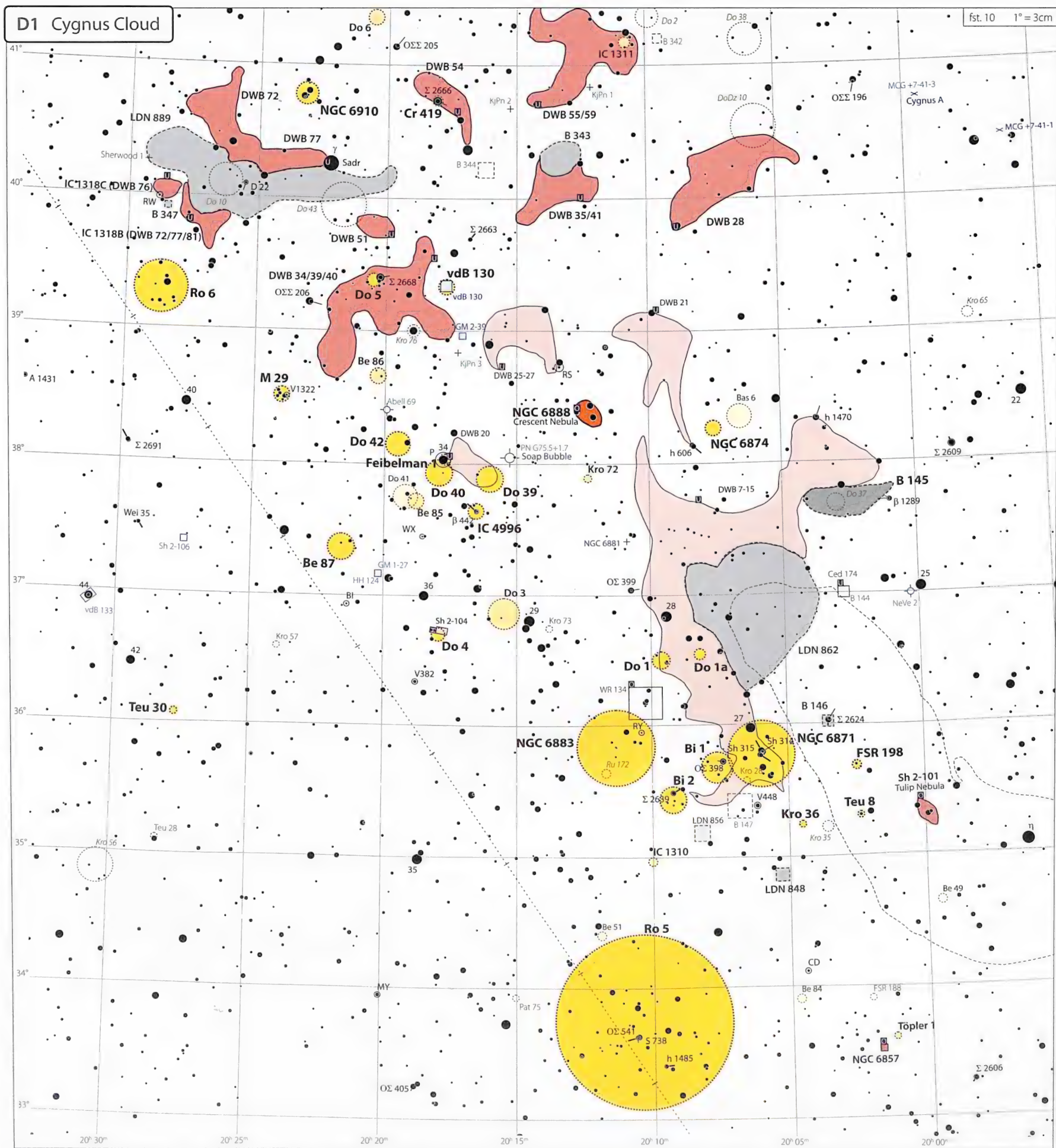


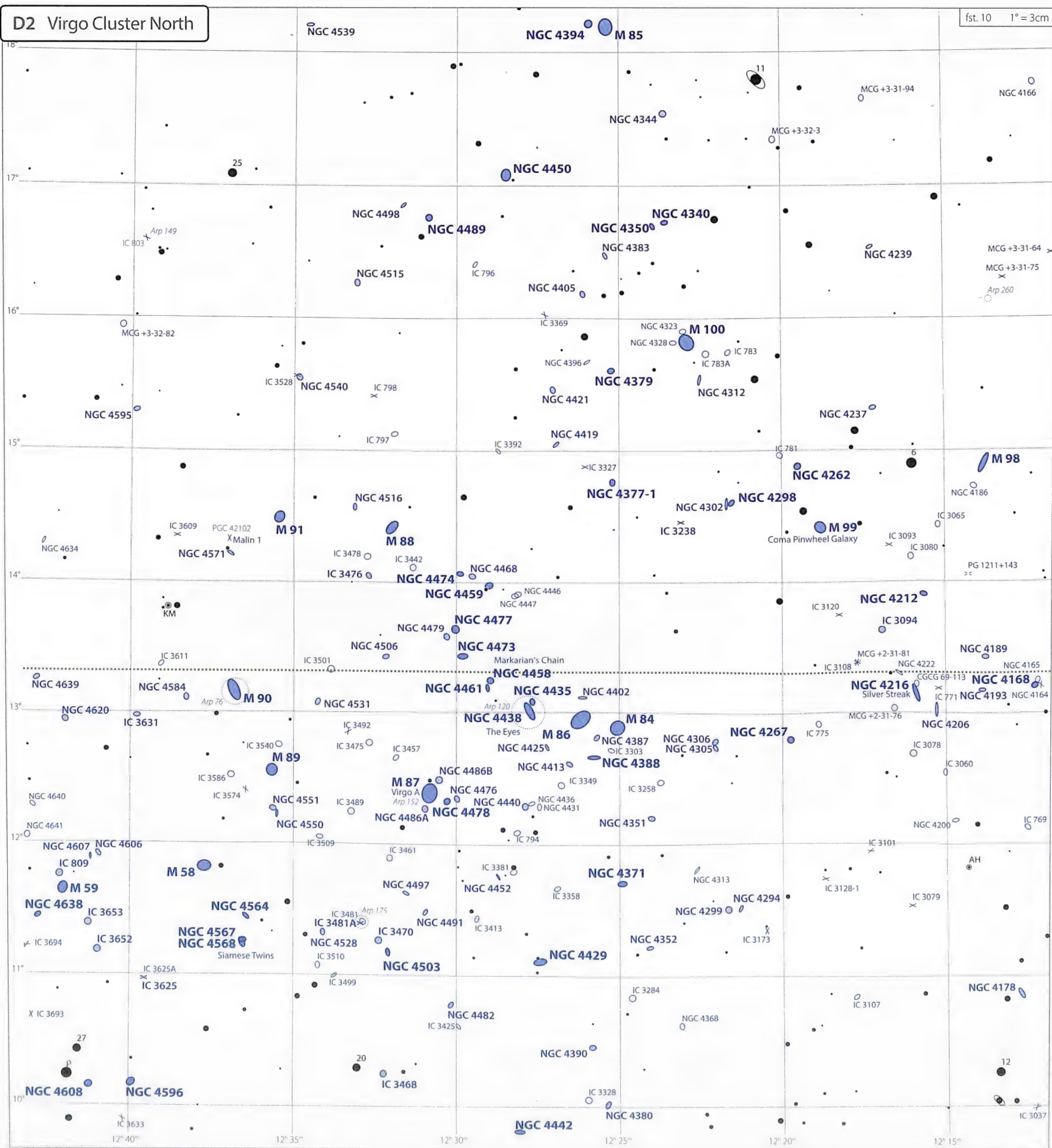




# D1 Cygnus Cloud

fst. 10 1" = 3cm

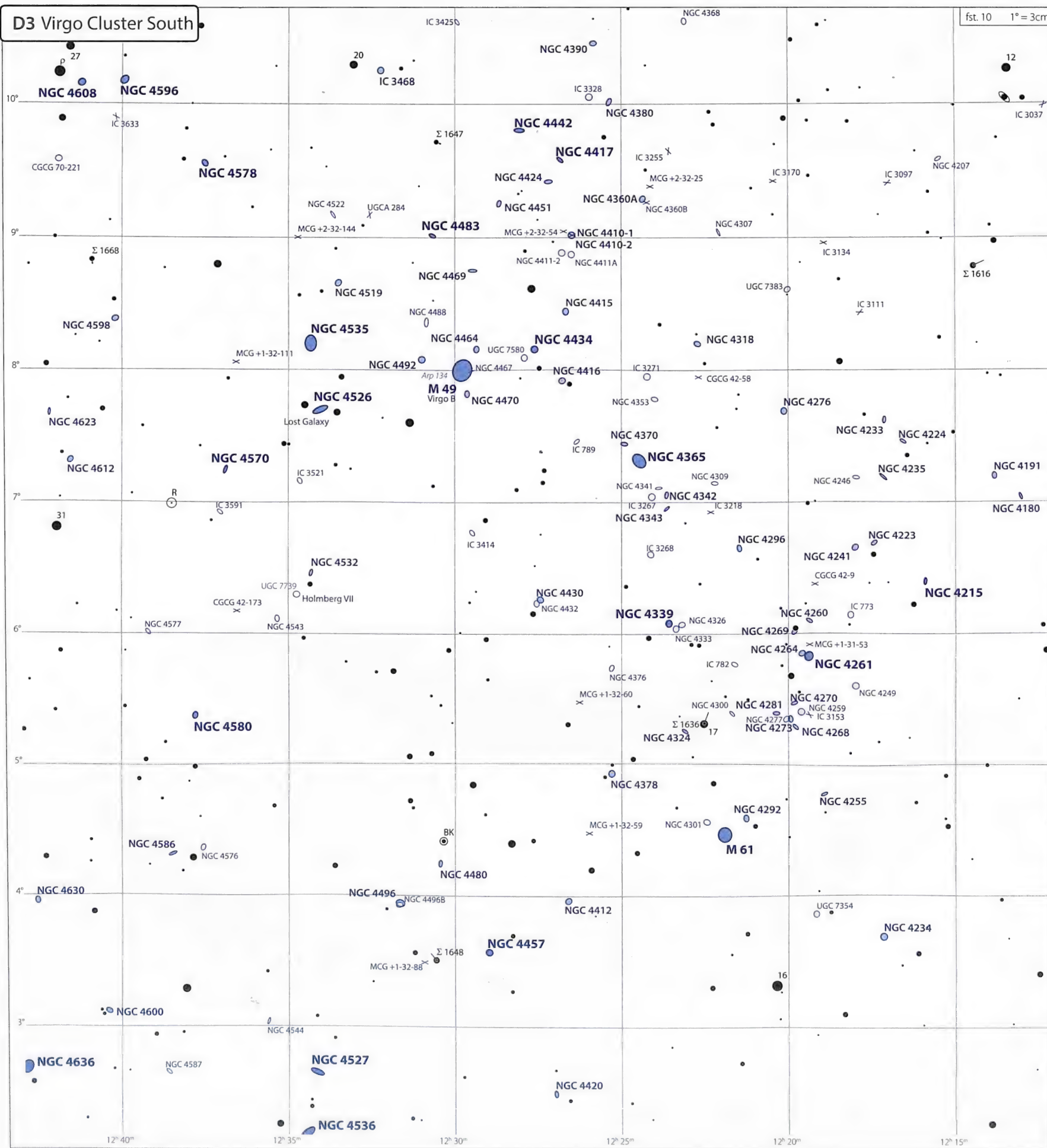


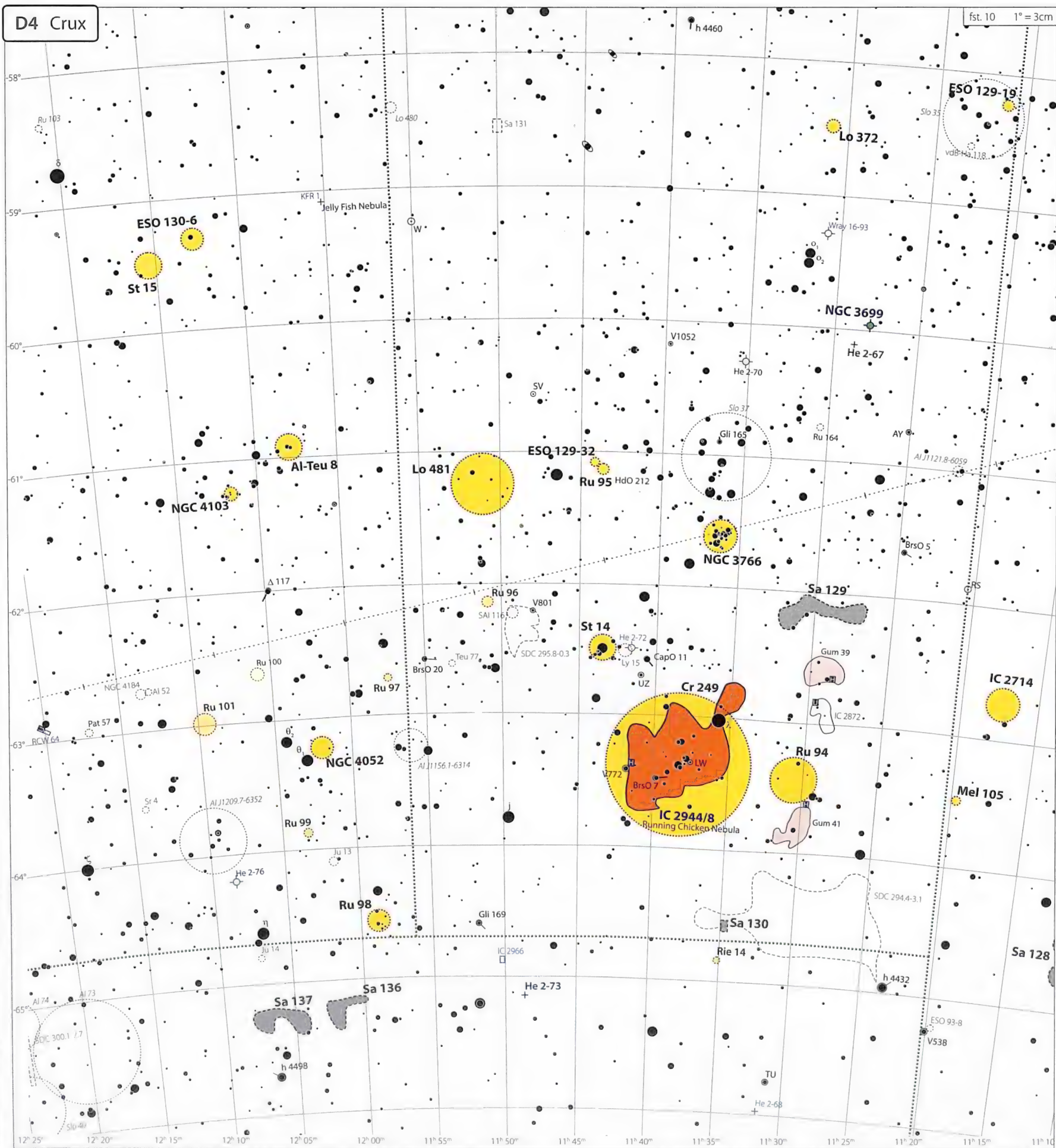




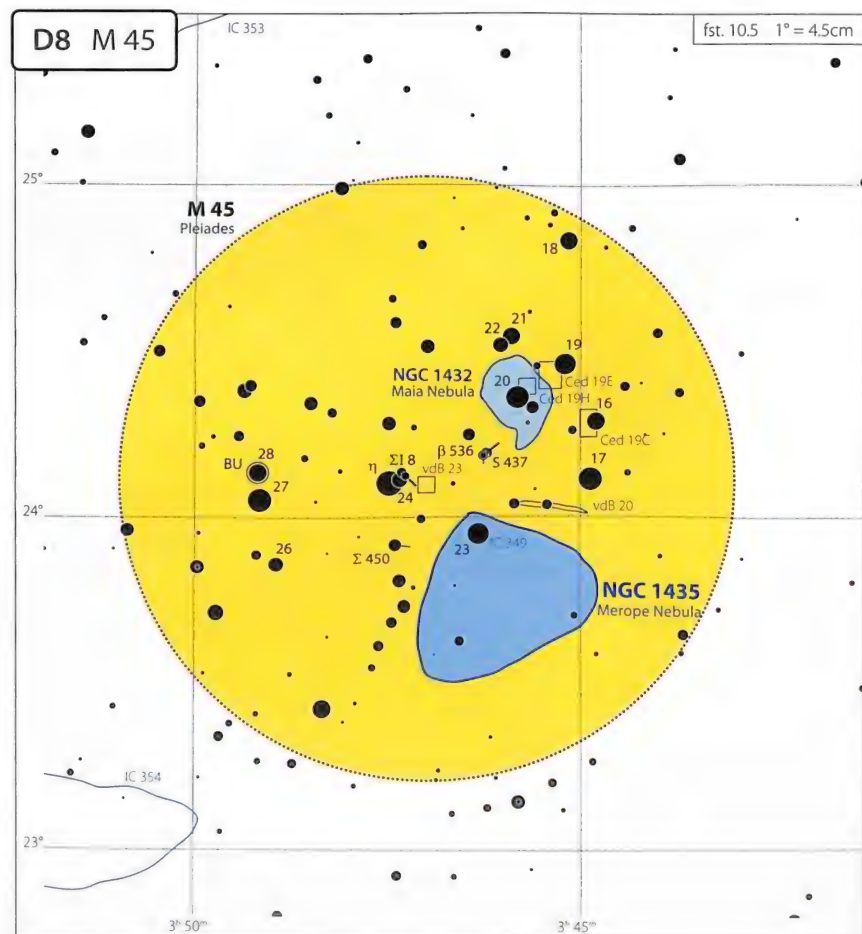
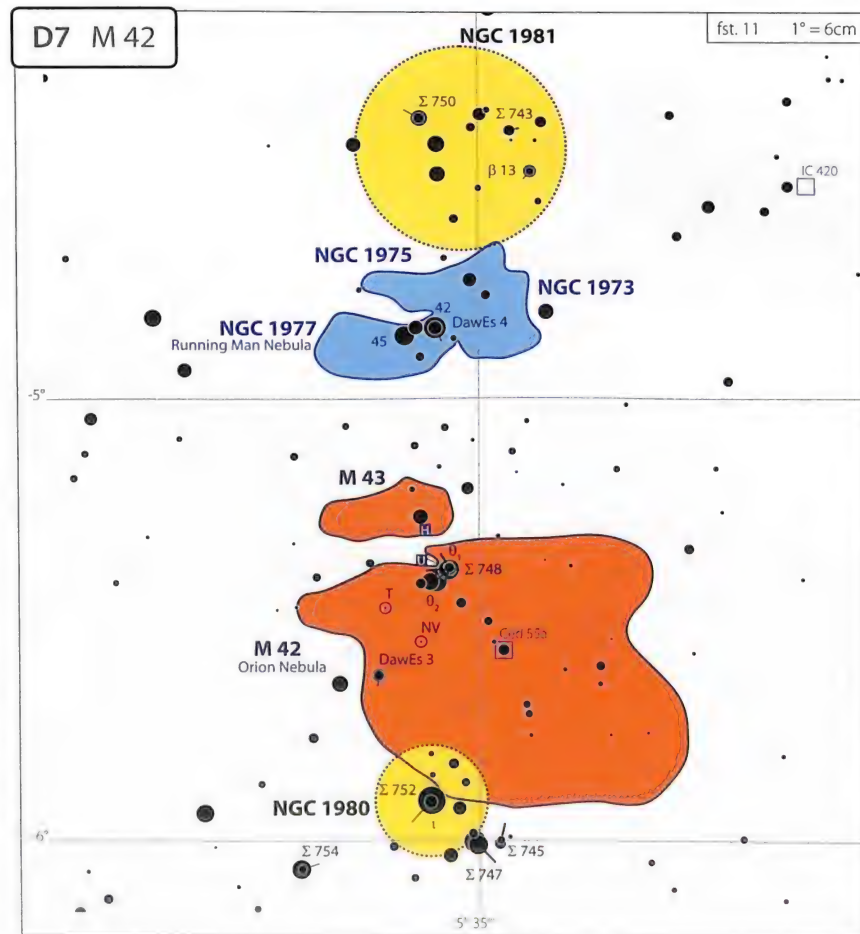
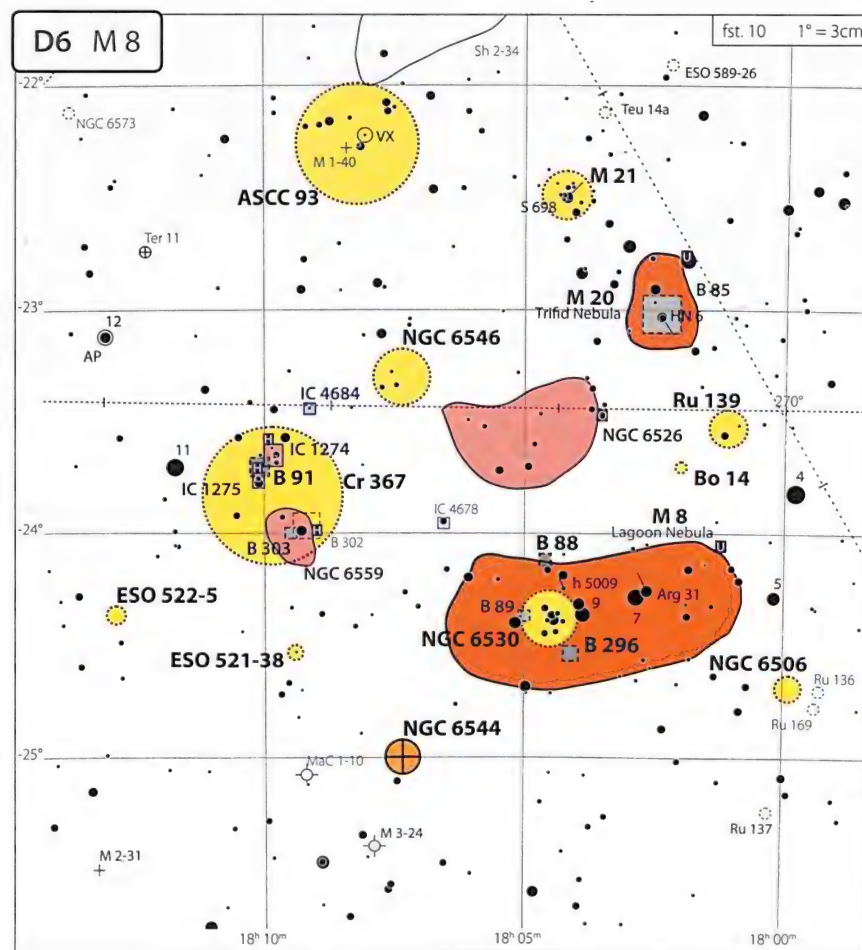
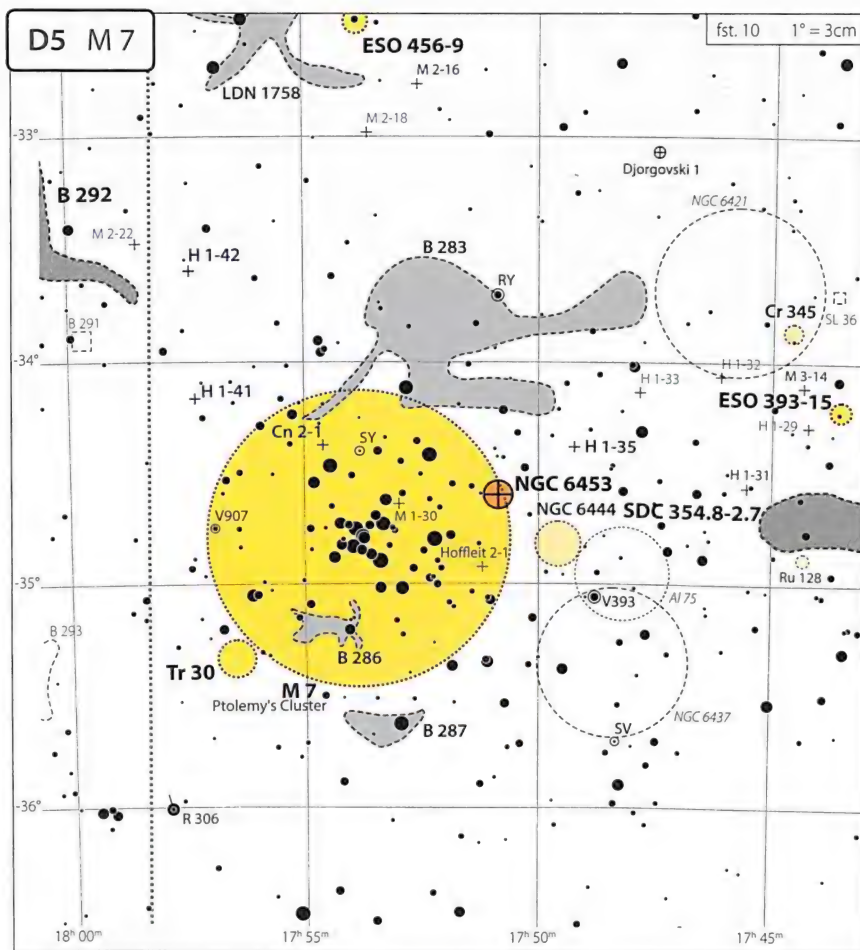
### D3 Virgo Cluster South

|         |                        |
|---------|------------------------|
| fst. 10 | $1^\circ = 3\text{cm}$ |
|---------|------------------------|

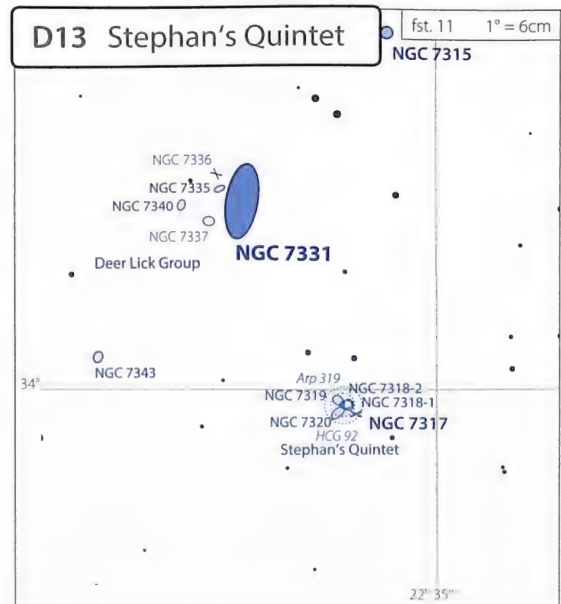
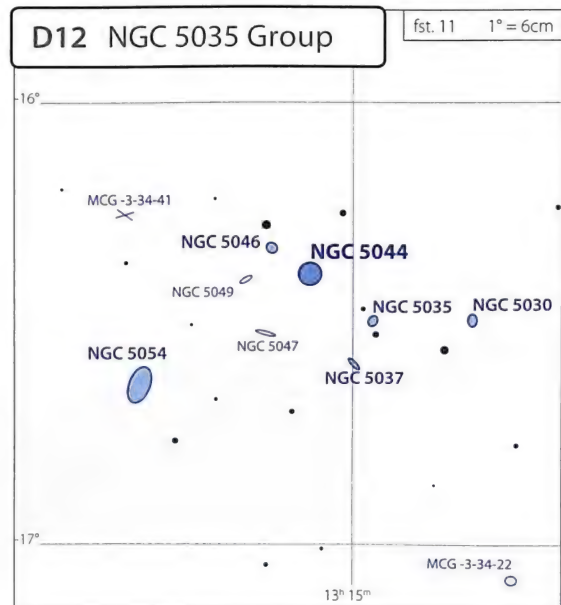
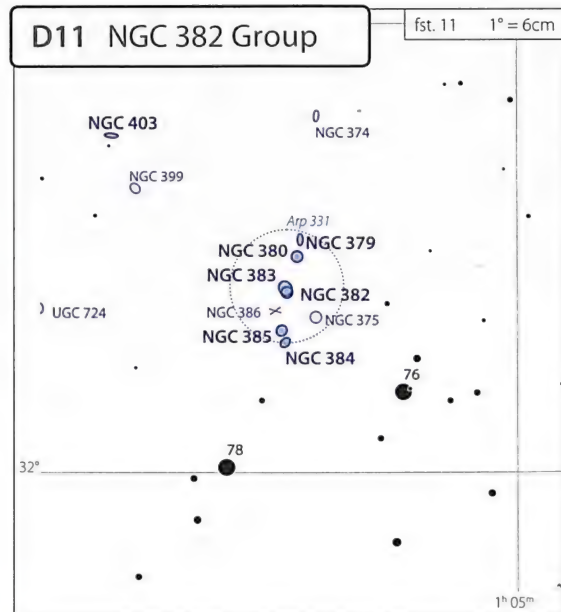
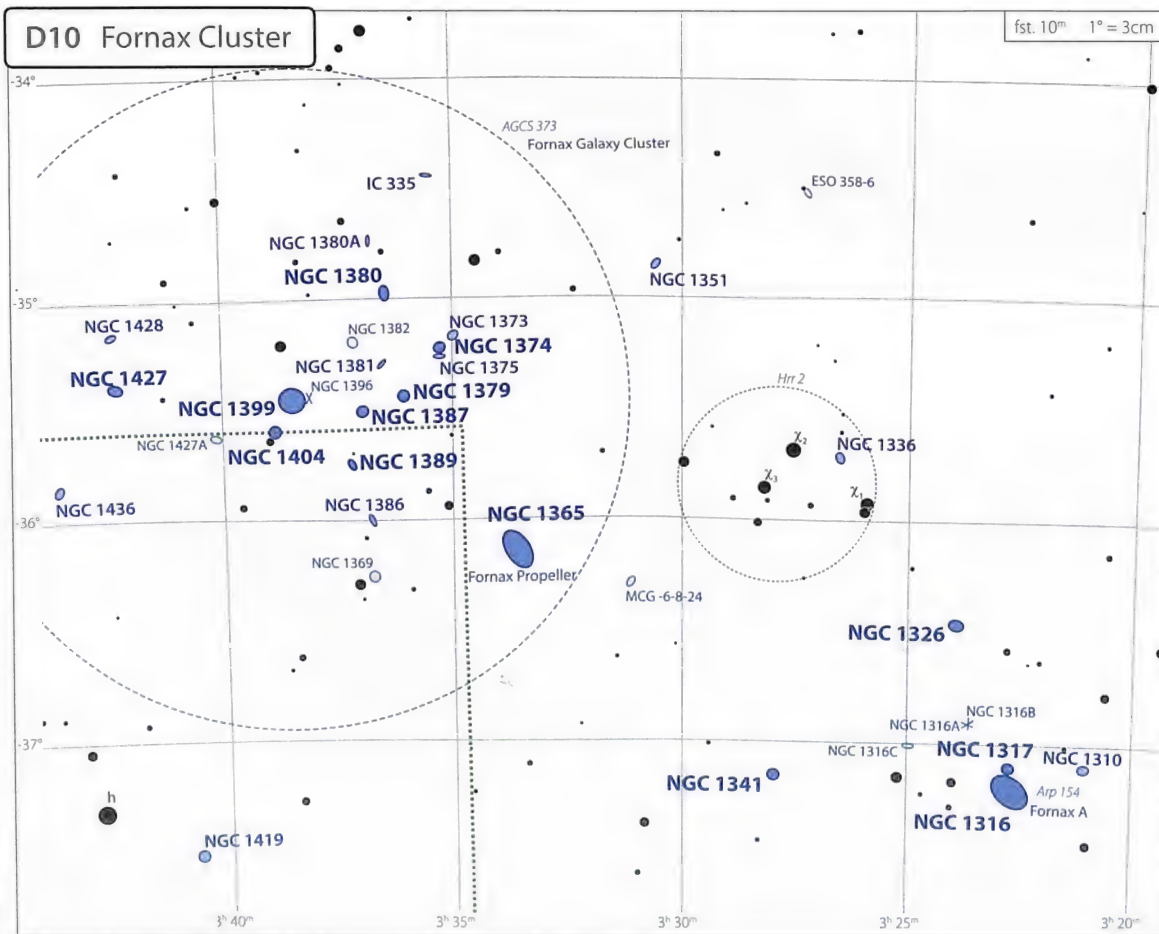
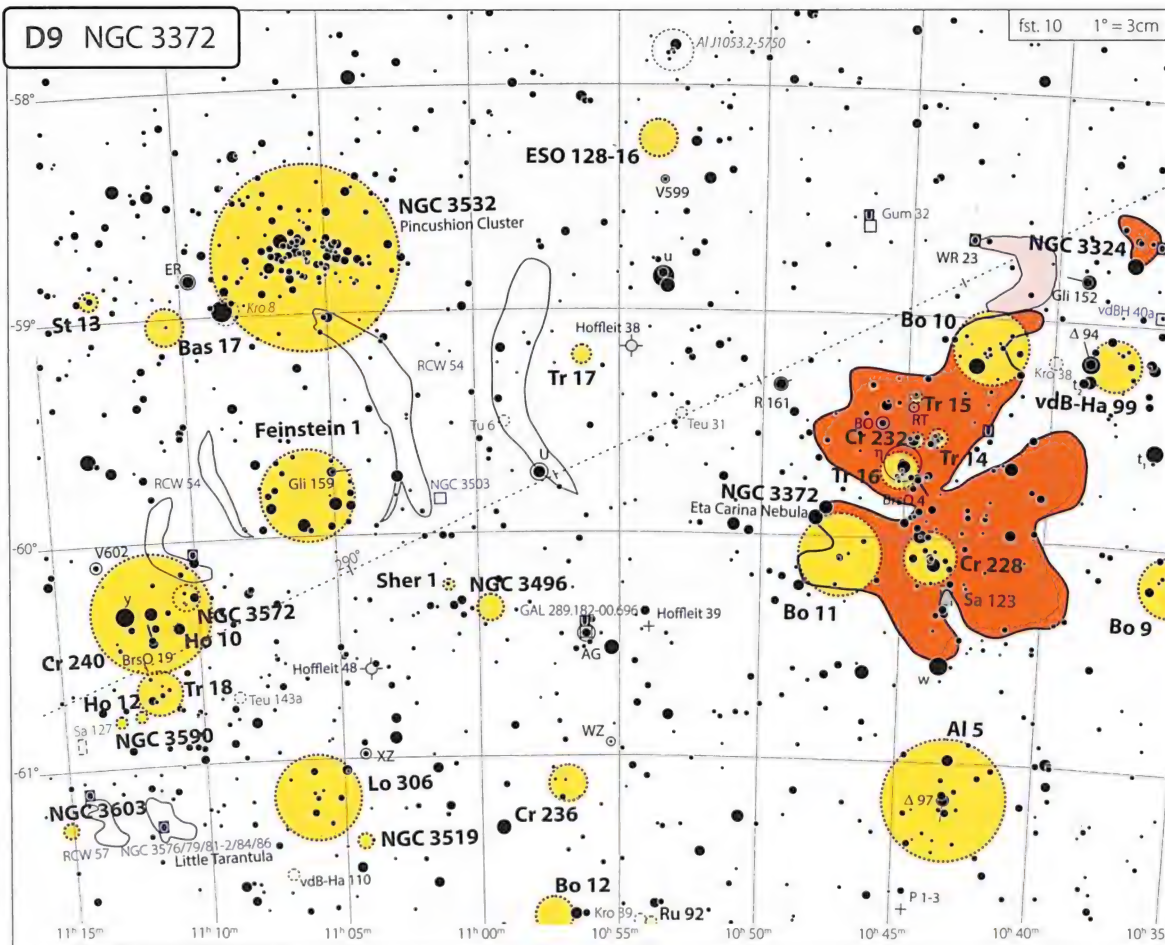




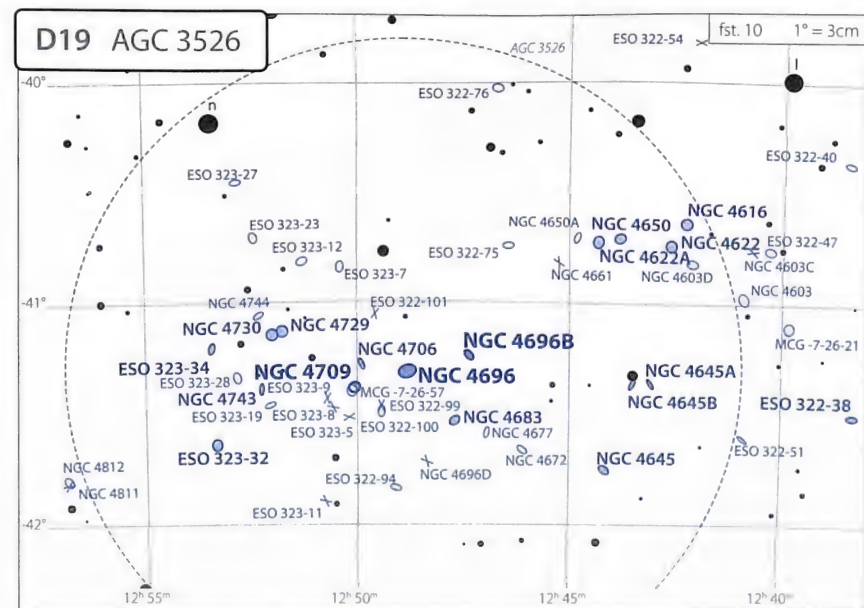
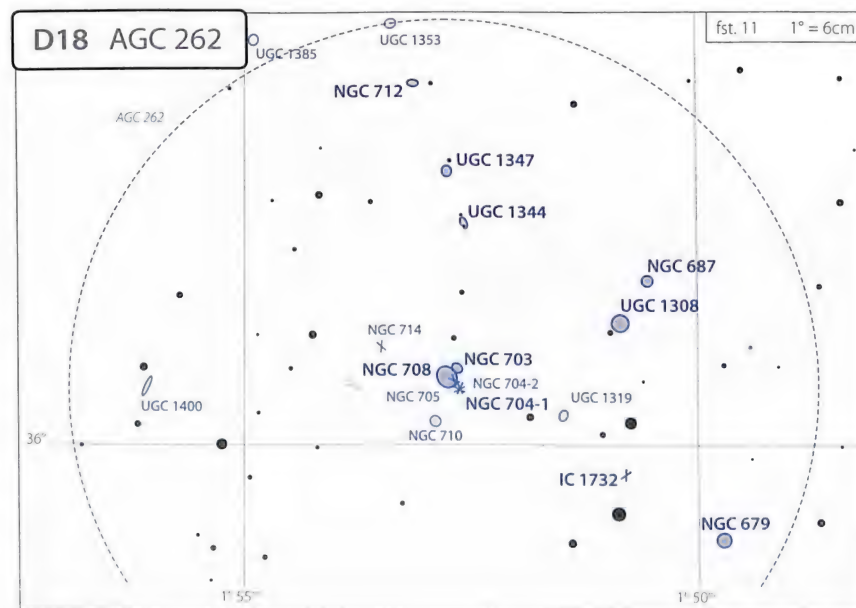
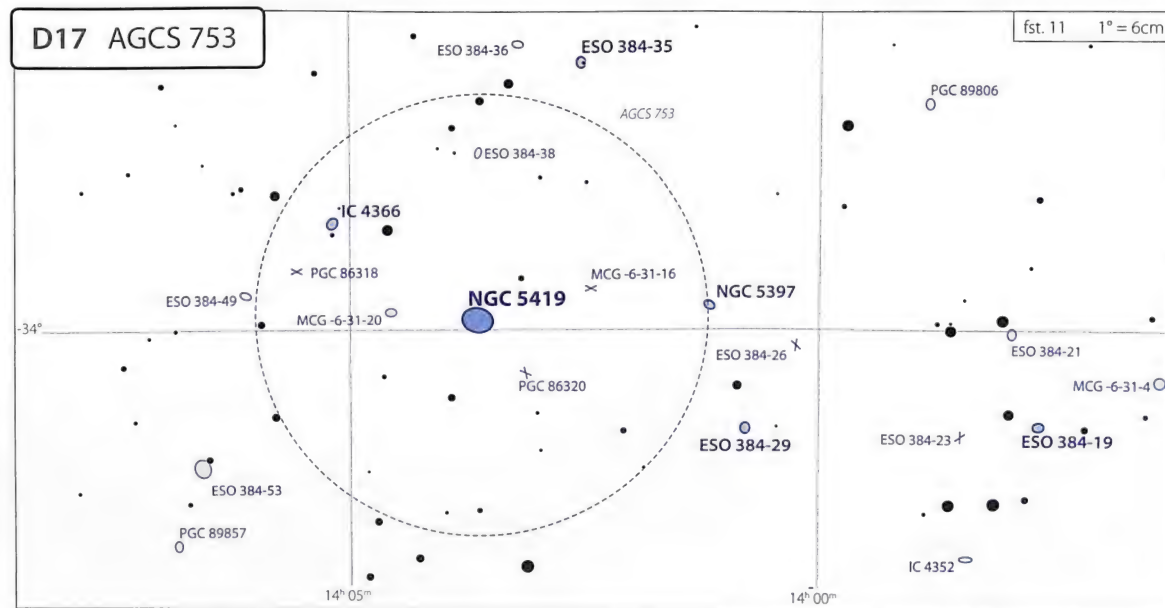
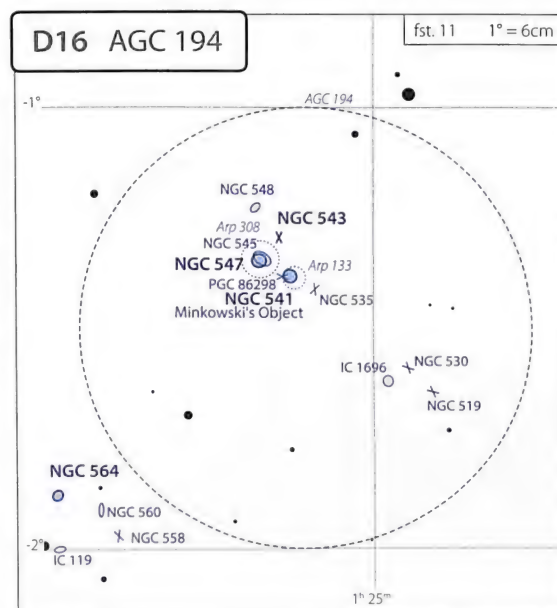
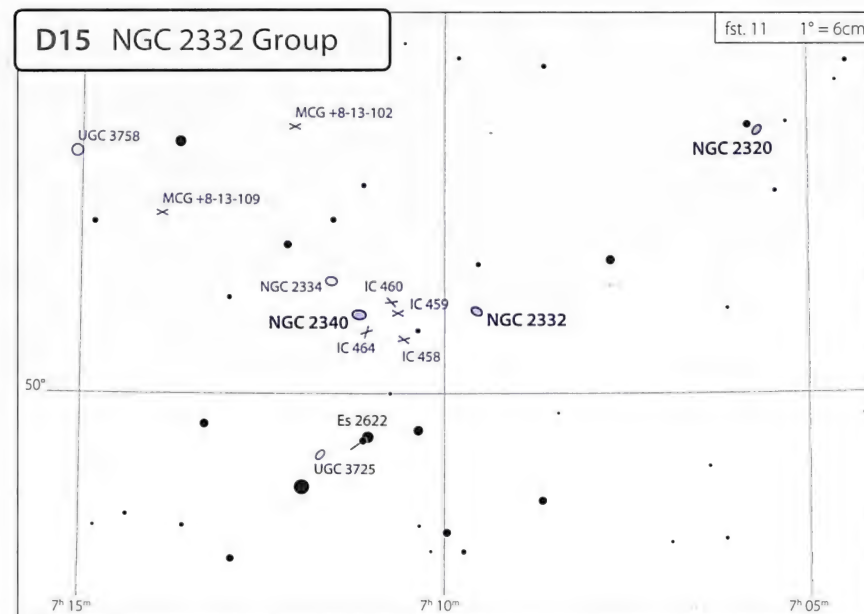
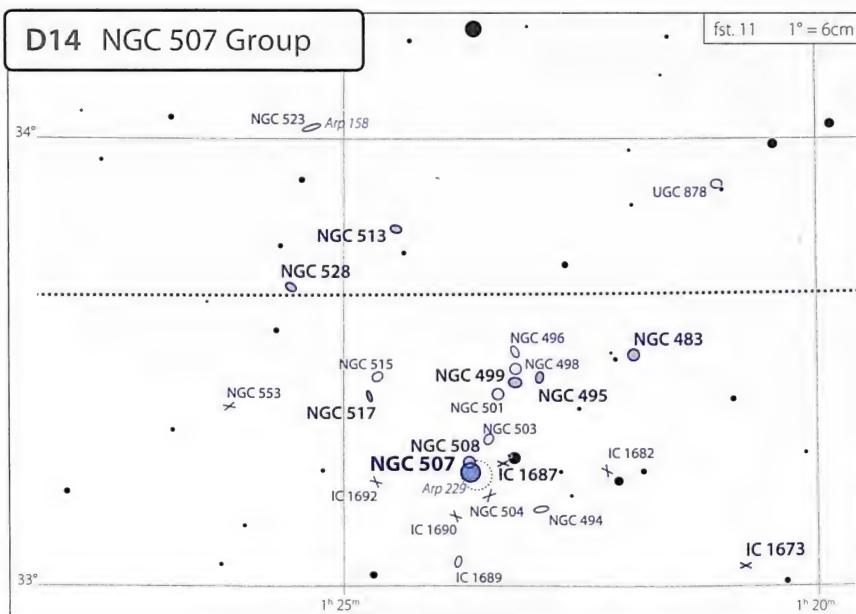






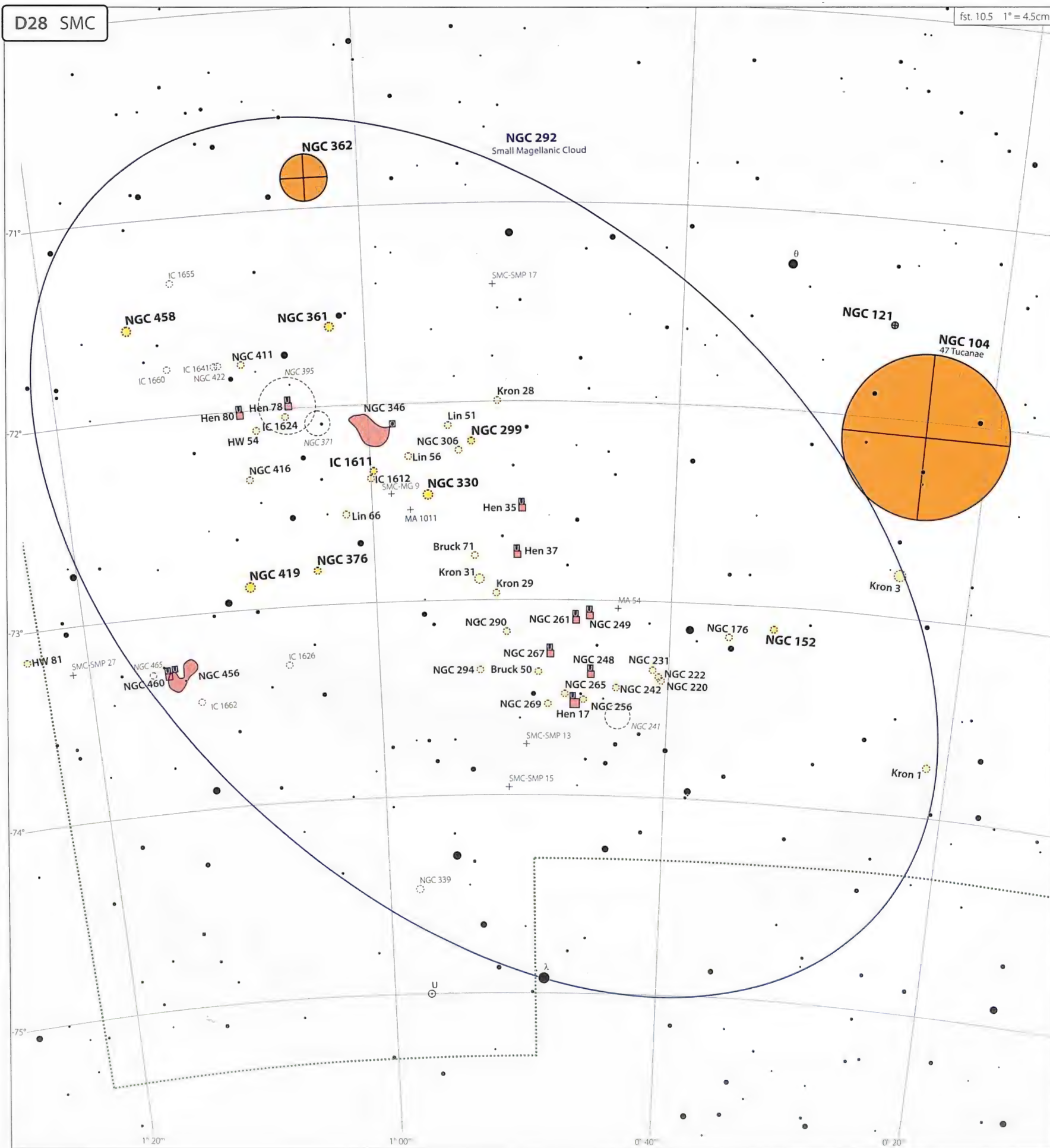


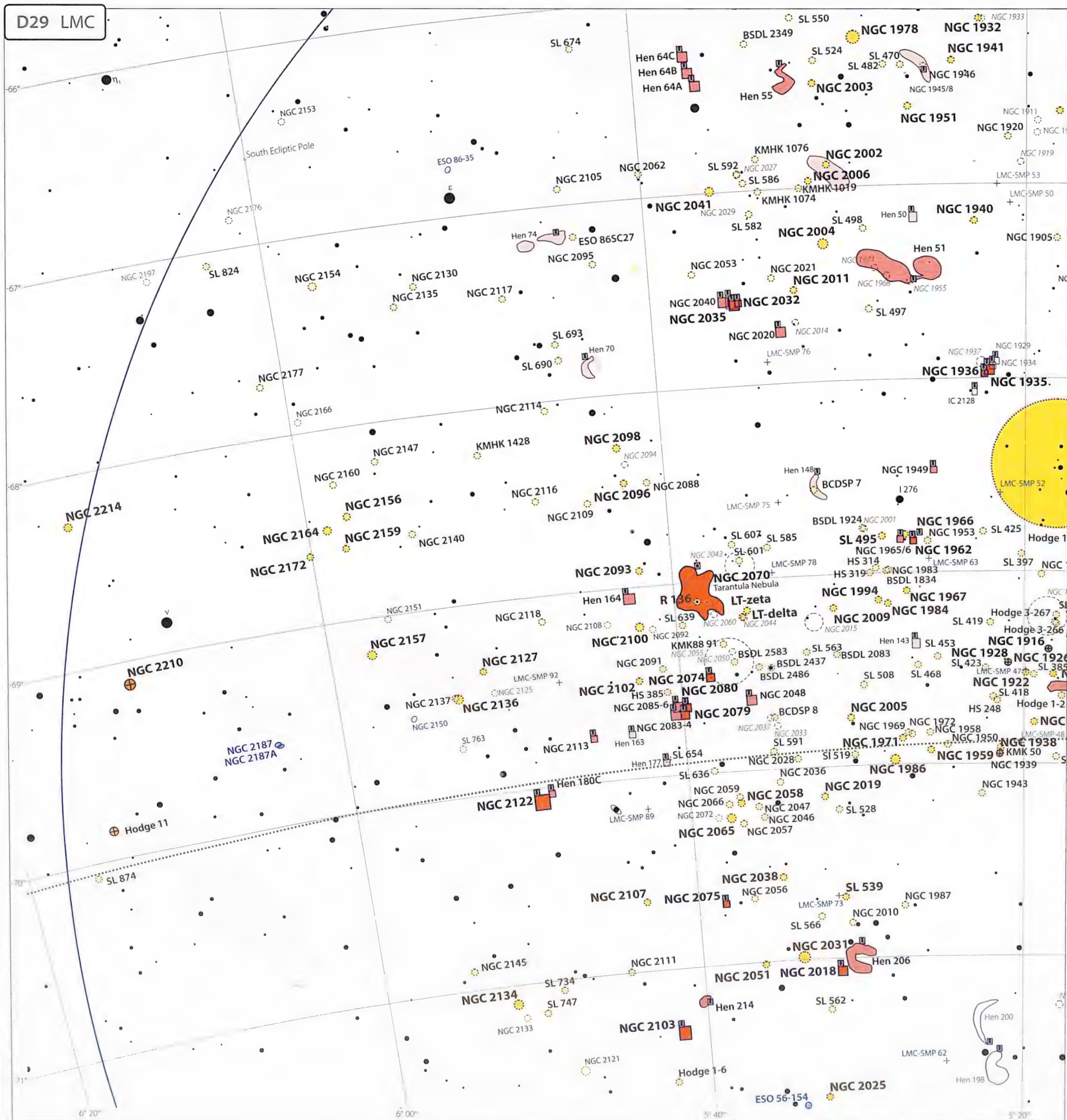




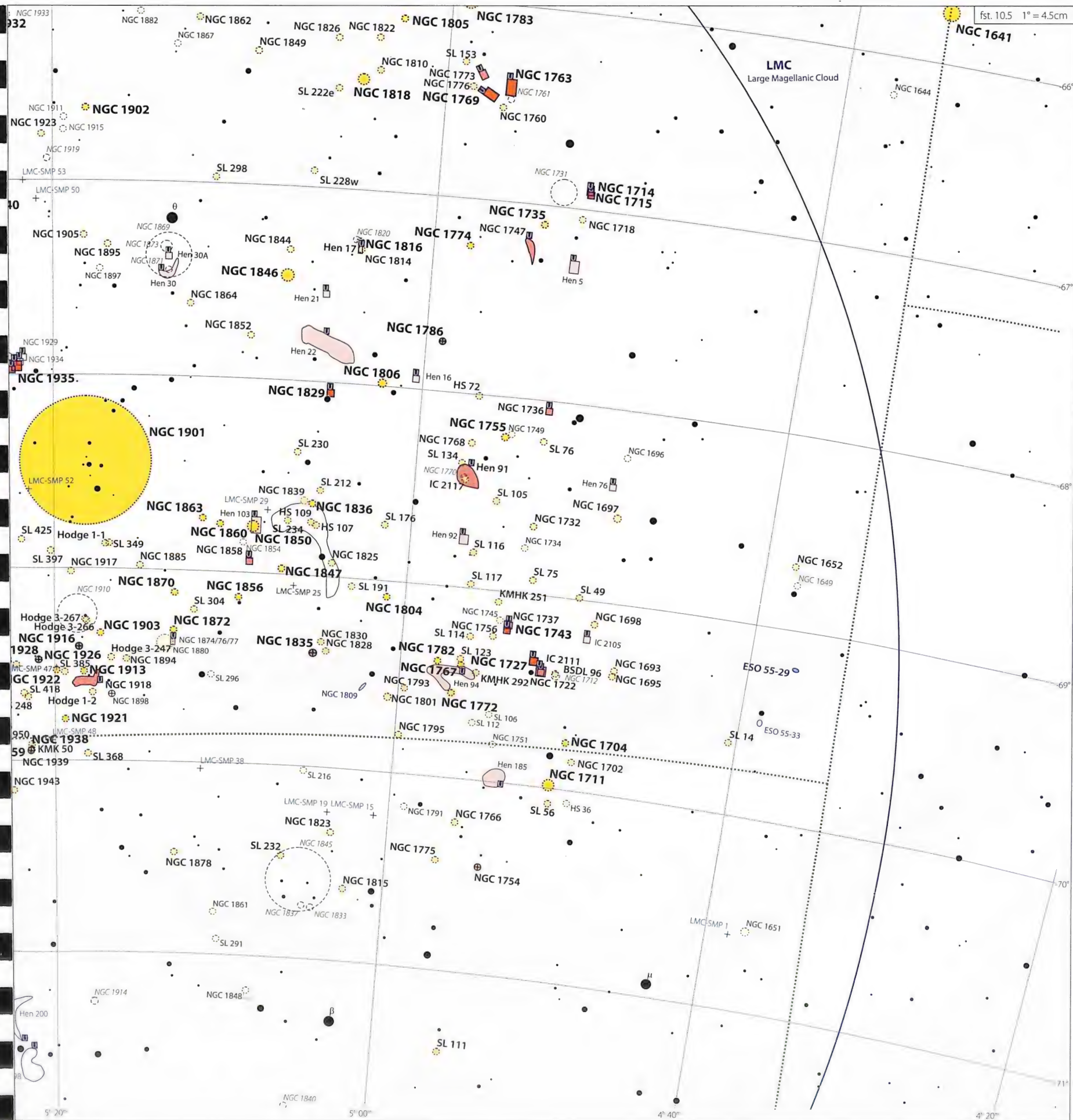














# Index of deep-sky objects

| OC         | Be 17              | 37    | Bruck 71       | D28        | Cz 43                  | 8, 15       | ESO 335-5          | 90, 91      | FSR 1031           | 60              | IC 4651        | 90, 91, 102         | Lin 66             | D28           | NGC 231            | D28        | NGC 1795       | D29      |               |
|------------|--------------------|-------|----------------|------------|------------------------|-------------|--------------------|-------------|--------------------|-----------------|----------------|---------------------|--------------------|---------------|--------------------|------------|----------------|----------|---------------|
|            | Be 18              | 25    | BSDL 96        | D29        | Cz 44                  | 8, 15       | ESO 337-23         | 78, 90      | FSR 1053           | 60              | IC 4665        | 43, 55              | Lin 113            | 108, 112, 113 | NGC 242            | D28        | NGC 1798       | 25       |               |
| Al 1       | 27                 |       | BSDL 1834      | D29        | Cz 45                  | 2, 7, 8, 15 | ESO 368-11         | 83, 84, 95  | FSR 1083           | 60              | IC 4756        | 54                  | Lin 114            | 108, 112, 113 | NGC 256            | D28        | NGC 1801       | D29      |               |
| Al 2       | 14                 | Be 20 | 61             | BSDL 1924  | D29                    | Danks 1     | 103                | ESO 368-14  | 83, 84             | FSR 1085        | 60             | IC 4996             | 17, 18, 29, 30, D1 | Lo 27         | NGC 265            | D28        | NGC 1804       | D29      |               |
| Al 3       | 96                 | Be 21 | 37, 48, 49     | BSDL 2083  | D29                    | Danks 2     | 103                | ESO 370-17  | 83, 95             | FSR 1113        | 60             | Ivanov 8            | 83, 95             | Lo 28         | NGC 269            | D28        | NGC 1805       | D29      |               |
| Al 5       | 104, D9            | Be 22 | 48, 49, 60, 61 | BSDL 2349  | D29                    | DC 3        | 84, 96             | ESO 371-25  | 83, 95             | FSR 1144        | 60, 72         | Johansson 1         | 91, 92, 102        | Lo 89         | NGC 290            | D28        | NGC 1806       | D29      |               |
| Al 8       | 91, 92, 102        | Be 23 | 48             | BSDL 2437  | D29                    | DC 4        | 72                 | ESO 389-5   | 79, 80, 91, 92     | FSR 1150        | 60, 72         | Ju 1                | 42                 | Lo 306        | NGC 294            | D28        | NGC 1810       | D29      |               |
| Al 10      | 65, 66             | Be 24 | 60             | BSDL 2486  | D29                    | DC 8        | 36, 37             | ESO 392-13  | 79                 | FSR 1171        | 72             | Ju 3                | 42, 54             | Lo 372        | 103, 104, D4       | NGC 299    | D28            | NGC 1814 | D29           |
| Al 12      | 29, 41             | Be 25 | 72             | BSDL 2583  | D29                    | Dias 1      | 8, 15              | ESO 393-12  | 79, 91             | FSR 1183        | 72             | Ju 7                | 72                 | Lo 481        | 103, 104, D4       | NGC 306    | D28            | NGC 1815 | D29           |
| Al 15      | 60                 | Be 29 | 48             | C 2140+658 | D29                    | Dias 2      | 2, 8, 9            | ESO 393-15  | 79, D5             | FSR 1209        | 72             | Ju 9                | 14                 | Lo 682        | 103, 104           | NGC 330    | D28            | NGC 1816 | D29           |
| Al 16      | 60                 | Be 35 | 60             | Cr 32      | 14, 15                 | Dias 3      | 60, 72             | ESO 397-1   | 78                 | FSR 1294        | 72, 84         | Ju 11               | 14, 26             | Lo 694        | 103                | NGC 339    | D28            | NGC 1817 | 49            |
| Al 18      | 84                 | Be 36 | 72             | Cr 33      | 14, 15                 | Dias 6      | 66                 | ESO 425-6   | 84, 85             | FSR 1363        | 83, 84, 96     | Ju 12               | 72, 84             | Lo 757        | 103, 110           | NGC 361    | D28            | NGC 1818 | D29           |
| Al 20      | 8, 15              | Be 37 | 60             | Cr 34      | 14, 15                 | Do 1        | 17, 18, 29, 30, D1 | ESO 425-15  | 84                 | Graham 1        | 104            | Ju 13               | D4                 | Lo 807        | 103                | NGC 366    | 15             | NGC 1822 | D29           |
| Al 21      | 60, 72             | Be 39 | 60             | Cr 69      | 49, 61                 | Do 1a       | 17, 18, 29, 30, D1 | ESO 426-26  | 84                 | H 6             | 103, 110, 111  | Ju 14               | D4                 | Lo 821        | 103                | NGC 376    | D28            | NGC 1823 | D29           |
| Al 22      | 16, 27, 28, 39     | Be 43 | 42             | Cr 74      | 49, 61                 | Do 3        | D1                 | ESO 427-32  | 84                 | H 8             | 103, 110       | Ju 16               | 104                | Lo 915        | 103                | NGC 381    | 15             | NGC 1825 | D29           |
| Al 31      | 67                 | Be 44 | 42             | Cr 89      | 36, 48                 | Do 4        | 17, 18, 29, 30, D1 | ESO 429-2   | 84                 | H 10            | 102            | Ju 18               | 48, 60             | Lo 1010       | 103                | NGC 411    | D28            | NGC 1826 | D29           |
| Al 34      | 95, 96, 105        | Be 45 | 42             | Cr 92      | 60                     | Do 5        | 17, 18, D1         | ESO 429-5   | 84                 | H 13            | 91             | Ju 19               | 14, 25, 26         | Lo 1171       | 103                | NGC 416    | D28            | NGC 1828 | D29           |
| Al 37      | 16                 | Be 47 | 42             | Cr 95      | 48                     | Do 6        | D1                 | ESO 429-13  | 84                 | H 16            | 79, 91         | Ju 20               | 25, 26             | Lo 1225       | 103                | NGC 419    | D28            | NGC 1830 | D29           |
| Al 43      | 95                 | Be 49 | D1             | Cr 104     | 60                     | Do 8        | 17, 18             | ESO 430-9   | 83, 84             | H 20            | 41, 42         | Ju 21               | 8                  | Lo 1256       | 102, 103           | NGC 422    | D28            | NGC 1831 | 106, 112      |
| Al 44      | 54                 | Be 51 | D1             | Cr 107     | 60                     | Do 13       | 8, 15              | ESO 430-14  | 83, 84             | H 21            | 8, 15          | Ju 22               | 102, 103           | Lo 1289       | 103                | NGC 433    | 15             | NGC 1836 | D29           |
| Al 52      | D4                 | Be 52 | 29             | Cr 110     | 60                     | Do 14       | 37, 38             | ESO 430-18  | 83, 84             | Haf 4           | 72             | Ju 23               | 49                 | Lo 1339       | 102, 103           | NGC 436    | 15             | NGC 1839 | D29           |
| Al 53      | 48, 60             | Be 53 | 8, 9, 17       | Cr 115     | 60                     | Do 15       | 37                 | ESO 435-9   | 82, 83             | Haf 6           | 72             | Juchert-Saloranta 1 | 8, 15              | Lo 1378       | 102, 103           | NGC 457    | 15             | NGC 1844 | D29           |
| Al 56      | 42                 | Be 54 | 17             | Cr 121     | 84                     | Do 16       | 37                 | ESO 435-17  | 82, 83             | Haf 7           | 84             | K 1                 | 2, 7, 8, 15        | Lo 1409       | 102, 103           | NGC 458    | D28            | NGC 1846 | D29           |
| Al 57      | 42                 | Be 55 | 8, 16, 17      | Cr 132     | 84                     | Do 18       | 37                 | ESO 435-33  | 82, 83             | Haf 8           | 72             | K 2                 | 15                 | Lo 2045       | 102, 103           | NGC 559    | 15             | NGC 1847 | D29           |
| Al 58      | 48                 | Be 56 | 17             | Cr 135     | 84, 96                 | Do 22       | 60                 | ESO 435-48  | 82, 83             | Haf 9           | 72             | K 4                 | 14, 15             | Loiano 1      | 29, 3              | NGC 609    | 15             | NGC 1848 | D29           |
| Al 59      | 60                 | Be 58 | 8, 15          | Cr 140     | 84                     | Do 23a      | 60                 | ESO 436-2   | 82                 | Haf 10          | 72             | K 5                 | 14, 15, 26         | LT-delta      | D29                | NGC 637    | 15             | NGC 1849 | D29           |
| Al 60      | 60                 | Be 59 | 2, 7, 8, 15    | Cr 185     | 83, 95                 | Do 23b      | 60                 | ESO 447-29  | 80                 | Haf 11          | 84             | K 6                 | 14, 15             | LT-zeta       | D29                | NGC 643    | 108, 112, 113  | NGC 1850 | D29           |
| Al 62      | 30, 42             | Be 60 | 8, 15          | Cr 187     | 83                     | Do 24       | 60                 | ESO 456-9   | 78, 79, D5         | Ly 1            | 84             | K 7                 | 14, 25, 26         | Ly 1          | 103                | NGC 654    | 15             | NGC 1852 | D29           |
| Al 64      | 73                 | Be 61 | 2, 7, 15       | Cr 196     | 83                     | Do 25       | 60                 | ESO 456-29  | 78, 79             | Haf 14          | 84             | K 8                 | 36, 37             | Ly 2          | 102, 103           | NGC 657    | 15             | NGC 1854 | D29           |
| Al 70      |                    | Be 62 | 8, 15          | Cr 197     | 95                     | Do 28       | 66                 | ESO 489-1   | 84, 85             | Haf 15          | 83, 84         | K 9                 | 8                  | Ly 3          | 102, 103           | NGC 659    | 15             | NGC 1856 | D29           |
| Al-Teu 1   | 15                 | Be 63 | 14, 15         | Cr 213     | 94, 95, 104            | Do 30       | 54, 66             | ESO 493-3   | 84                 | Haf 16          | 83, 84         | K 10                | 8                  | Ly 4          | 102                | NGC 663    | 15             | NGC 1857 | 25, 37        |
| Al-Teu 3   | 96, 105            | Be 64 | 7, 14, 15      | Cr 220     | 104                    | Do 31       | 54, 66             | ESO 494-9   | 83, 84             | Haf 17          | 83, 84         | K 11                | 2, 7               | Ly 5          | 102                | NGC 743    | 15             | NGC 1859 | 106, 112      |
| Al-Teu 5   | 8                  | Be 65 | 14, 15         | Cr 223     | 104                    | Do 32       | 54                 | ESO 518-3   | 79                 | Haf 18          | 83, 84         | K 12                | 8, 15              | Ly 6          | 91, 92, 102        | NGC 744    | 15             | NGC 1860 | D29           |
| Al-Teu 7   | 95                 | Be 66 | 14, 15         | Cr 228     | D9                     | Do 33       | 54                 | ESO 521-38  | 78, D6             | Haf 19          | 83, 84         | K 13                | 8, 15              | Ly 8          | 91, 92             | NGC 752    | 26, 27, 38, 39 | NGC 1861 | D29           |
| Al-Teu 8   | 103, 104, D4       | Be 67 | 25, 26         | Cr 232     | D9                     | Do 39       | 17, 18, 29, 30, D1 | ESO 522-5   | 78, D6             | Haf 20          | 83, 84         | K 14                | 8, 15              | Ly 9          | 91, 92             | NGC 796    | 108, 112, 113  | NGC 1862 | D29           |
| Al-Teu 9   | 38                 | Be 68 | 25             | Cr 236     | D9                     | Do 40       | 17, 18, 29, 30, D1 | ESO 522-16  | 78                 | Haf 21          | 83, 84         | K 15                | 8, 15              | Ly 11         | 91                 | NGC 869    | 15             | NGC 1863 | D29           |
| Al-Teu 10  | 38                 | Be 69 | 37             | Cr 240     | 104, D9                | Do 41       | D1                 | ESO 524-1   | 78                 | Haf 22          | 83, 84         | K 16                | 8, 15              | Ly 12         | 91, 102            | NGC 884    | 15             | NGC 1864 | D29           |
| Al-Teu 11  | 9, 17, 18          | Be 70 | 25             | Cr 249     | 103, 104, 110, 111, D4 | Do 42       | 17, 29, D1         | ESO 525-8   | 66, 78             | Haf 23          | 72             | K 17                | 25, 37             | Ly 13         | 91                 | NGC 886    | 14, 15         | NGC 1866 | 106, 112      |
| Al-Teu 12  | 102                | Be 71 | 37             | Cr 269     | 103, 110               | Do 45       | 17, 29             | ESO 559-2   | 72                 | Haf 26          | 83             | K 18                | 8                  | Ly 14         | 91                 | NGC 956    | 26             | NGC 1867 | D29           |
| Alicante 1 | 14                 | Be 72 | 37, 49         | Cr 271     | 103                    | Do 47       | 17, 29             | ESO 559-13  | 72, 84             | Havlen-Moffat 1 | 79, 91         | K 19                | 8                  | Ly 15         | D4                 | NGC 957    | 14, 15         | NGC 1868 | 105, 106      |
| AM 2       | 84                 | Be 73 | 60, 72         | Cr 272     | 103                    | Do 49       | 60                 | ESO 561-5   | 71, 72, 83, 84     | Herschel 1      | 60             | K 20                | 8, 15              | M 6           | 79                 | NGC 1027   | 14, 15         | NGC 1870 | D29           |
| Archinal 1 | 54                 | Be 75 | 72, 84         | Cr 275     | 103                    | ESO 8-6     | 110, 114           | ESO 587-4   | 67                 | Ho 2            | 104            | K 21                | 7, 8, 15           | M 7           | 78, 79, 90, 91, D5 | NGC 1193   | 26             | NGC 1872 | D29           |
| ASCC 6     | 15                 | Be 76 | 72             | Cr 277     | 103, 110               | ESO 21-6    | 109, 110           | ESO 589-26  | D6                 | Ho 10           | D9             | K 23                | 60                 | M 11          | 54, 66             | NGC 1220   | 14, 15, 26     | NGC 1878 | D29           |
| ASCC 8     | 14, 15             | Be 77 | 60             | Cr 292     | 102                    | ESO 43-13   | 109, 110           | Feibelman 1 | 17, 18, D1         | Ho 12           | D9             | K 26                | 42                 | M 16          | 66                 | NGC 1245   | 26             | NGC 1880 | D29           |
| ASCC 9     | 14, 15             | Be 78 | 60             | Cr 307     | 91, 92, 102            | Feinstein 1 | 110, 111           | Feinstein 1 | 104, D9            | Ho 14           | 103, 104       | K 26                | 66                 | M 18          | 66                 | NGC 1342   | 26, 38         | NGC 1882 | D29           |
| ASCC 11    | 25, 26             | Be 79 | 54             | Cr 333     | 79                     | Frow 1      | 8, 15              | Frow 1      | 8, 15              | Ho 15           | 103, 104       | K 26                | 66                 | M 21          | 66, 67, 78, 79, D6 | NGC 1348   | 14, 25, 26     | NGC 1883 | 25            |
| ASCC 13    | 25                 | Be 80 | 54             | Cr 338     | 79, 91                 | ESO 865C27  | D29                | Fri 1       | 78                 | Ho 16           | 103            | K 26                | 66                 | M 21          | 66, 67, 78, 79, D6 | NGC 1444   | 14, 25, 26     | NGC 1885 | D29           |
| ASCC 15    | 25, 37             | Be 81 | 54             | Cr 345     | D5                     | ESO 92-5    | 104                | Fri 8       | 25, 26             | Ho 17           | 102, 103       | K 26                | 66                 | M 23          | 66                 | NGC 1496   | 14, 25, 26     | NGC 1887 | 112, 113      |
| ASCC 21    | 61                 | Be 82 | 42             | Cr 347     | 79                     | ESO 92-18   | 104                | Fri 10      | 60                 | Ho 18           | 92, 102, 103   | K 26                | 66                 | M 26          | 66                 | NGC 1502   | 7, 14          | NGC 1890 | 61, 112, 113  |
| ASCC 23    | 24, 25             | Be 83 | 29, 30         | Cr 350     | 55                     | ESO 93-8    | D4                 | Fri 11      | 60                 | Ho 19           | 91, 92         | K 26                | 66                 | M 29          | 17, 29, D1         | NGC 1513   | 25, 26         | NGC 1893 | 37            |
| ASCC 31    | 60                 | Be 84 | D1             | Cr 351     | 78, 79                 | ESO 97-15   | 102, 103           | FSR 31      | 66, 67, 78, 79     | Ho 22           | 91             | K 26                | 66                 | M 34          | 26                 | NGC 1520   | 112, 113       | NGC 1894 | D29           |
| ASCC 37    | 84                 | Be 85 | D1             | Cr 367     | 78, 79, D6             | ESO 99-6    | 102, 103, 109, 110 | FSR 124     | 42                 | Hodge 1-1       | D29            | K 26                | 66                 | M 35          | 36, 37             | NGC 1528   | 14, 25, 26     | NGC 1897 | D29           |
| ASCC 40    | 72                 | Be 86 | D1             | Cr 371     | 66                     | ESO 123-26  | 105                | FSR 133     | 42                 | Hodge 1-2       | D29            | K 26                | 66                 | M 36          | 37                 | NGC 1545   | 25, 26         | NGC 1900 | 105, 106      |
| ASCC 61    | 104                | Be 87 | 17, 29, D1     | Cr 394     | 66, 78                 | ESO 128-16  | D9                 | FSR 154     | 30, 42             | Hodge 1-6       | D29            | K 26                | 66                 | M 37          | 36, 37             | NGC 1605   | 25             | NGC 1901 | 106, 112, D29 |
| ASCC 75    | 103                | Be 88 | 17, 18         | Cr 401     | 54                     | ESO 129-19  | 104, D4            | FSR 158     | 30                 | Hodge 3-247     | D29            | K 26                | 66                 | M 38          | 25, 37             | NGC 1624   | 25, 26         | NGC 1902 | D29           |
| ASCC 77    | 102, 103           | Be 89 | 17, 18         | Cr 419     | 17, 18, D1             | ESO 129-32  | 103, 104, D4       | FSR 162     | 29, 30             | Hodge 3-266     | D29            | K 26                | 66                 | M 39          | 16, 17             | NGC 1641   | D29            | NGC 1903 | D29           |
| ASCC 88    | 79, 91             | Be 90 | 17, 18         | Cr 421     | 17, 18                 | ESO 130-6   | 103, 104, D4       | FSR 167     | 29, 30             | Hodge 3-267     | D29            | K 26                | 66                 | M 41          | 72, 84             | NGC 1644   | D29            | NGC 1905 | D29           |
| ASCC 90    | 79                 | Be 91 | 17             | Cr 427     | 2, 3                   | ESO 130-13  | 103, 104           | FSR 188     | D1                 | Kp 10           | 24, 25, 36, 37 | K 26                | 66                 | M 44          | 47                 | NGC 1647   | 49             | NGC 1907 | 37            |
| ASCC 93    | 66, 67, 78, 79, D6 | Be 92 | 8, 9           | Cr 428     | 17                     | ESO 131-9   | 103, 104           | FSR 198     | 17, 18, 29, 30, D1 | Kp 12           | 24, 25, 36, 37 | K 26                | 66                 | M 45          | 37, 38, 50, D8     | NGC 1649   | D29            | NGC 1911 | D29           |
| ASCC 101   | 18, 30             | Be 93 | 8, 9           | Cr 463     | 2, 7                   | ESO 134-12  | 102, 103           | FSR 273     | 17                 | Kp 53           | 36, 37         | K 26                | 66                 | M 46          | 72                 | NGC 1651   | D29            | NGC 1913 | D29           |
| ASCC 116   | 8                  | Be 94 | 8              | Cr 465     | 72                     | ESO 137-23  | 102                | FSR 276     | 9, 17, 18          | Kp 63           | 36, 37         | K 26                | 66                 | M 47          | 72                 | NGC 1652   | D29            | NGC 1915 | D29           |
| ASCC 117   | 8                  | Be 95 | 8              | Cr 466     | 72                     | ESO 137-43  | 102                | FSR 320     | 8, 17              | Kro 1           | 37             | K 26                | 66                 | M 48          | 59, 71             | NGC 1662</ |                |          |               |



|          |                |          |               |          |                        |            |                |                 |                |        |                        |            |                |        |                   |           |                    |                 |                        |
|----------|----------------|----------|---------------|----------|------------------------|------------|----------------|-----------------|----------------|--------|------------------------|------------|----------------|--------|-------------------|-----------|--------------------|-----------------|------------------------|
| NGC 2006 | D29            | NGC 2232 | 60            | NGC 2982 | 94, 95                 | NGC 6583   | 66, 78         | NGC 7801        | 8, 15, 16, 27  | Ru 60  | 95, 96                 | SAI 36     | 25, 26         | SL 734 | D29               | Tom 2     | 72, 84             | Al 39           | 36, 48                 |
| NGC 2009 | D29            | NGC 2236 | 48, 60        | NGC 3033 | 104                    | NGC 6596   | 66             | NGC 7826        | 64, 75, 76, 87 | Ru 61  | 83                     | SAI 43     | 25             | SL 747 | D29               | Tom 4     | 14, 15             | Al 42A          | 8, 16                  |
| NGC 2010 | D29            | NGC 2241 | 112           | NGC 3036 | 104, 105               | NGC 6603   | 66             | Pat 3           | 25             | Ru 62  | 71                     | SAI 46     | 25, 37         | SL 763 | D29               | Tom 5     | 14                 | Al 42B          | 8, 16                  |
| NGC 2011 | D29            | NGC 2243 | 84            | NGC 3105 | 104                    | NGC 6604   | 66             | Pat 48          | 29, 30         | Ru 63  | 95, 96                 | SAI 47     | 25             | SL 804 | 111, 112, 113     | Topler 1  | D1                 | Al 48           | 60                     |
| NGC 2017 | 73             | NGC 2244 | 60            | NGC 3114 | 104                    | NGC 6605   | 66             | Pat 57          | D4             | Ru 64  | 95                     | SAI 48     | 37             | SL 824 | D29               | Tr 1      | 15                 | Al 51           | 37, 49                 |
| NGC 2019 | D29            | NGC 2249 | 112           | NGC 3228 | 94, 95, 104            | NGC 6625   | 66             | Pat 65          | 17, 29         | Ru 65  | 95                     | SAI 49     | 14, 24, 25     | SL 874 | D29               | Tr 2      | 14, 15             | Al 73           | D4                     |
| NGC 2021 | D29            | NGC 2250 | 60            | NGC 3231 | 5, 12                  | NGC 6631   | 66             | Pat 75          | D1             | Ru 66  | 83, 95                 | SAI 69     | 72             | SL 874 | 60                | Tr 3      | 14, 15             | Al 74           | 103, 104, 110, 111, D4 |
| NGC 2025 | D29            | NGC 2251 | 48, 60        | NGC 3255 | 104                    | NGC 6633   | 42, 54         | Pat 78          | 2, 7, 8, 15    | Ru 67  | 95                     | SAI 72     | 60             | SL 874 | 95                | Tr 5      | 48, 60             | Al 75           | D5                     |
| NGC 2026 | 49             | NGC 2252 | 60            | NGC 3293 | 104                    | NGC 6639   | 66             | Pat 89          | 17, 18         | Ru 68  | 83, 95                 | SAI 81     | 83, 84         | SL 874 | 104               | Tr 6      | 84                 | Al 78           | 95                     |
| NGC 2028 | D29            | NGC 2254 | 48, 60        | NGC 3330 | 104                    | NGC 6645   | 66             | Pat 90          | 60             | Ru 69  | 95                     | SAI 86     | 83, 84, 95, 96 | SL 874 | D4                | Tr 7      | 84                 | Al 80A          | 79, 90, 91             |
| NGC 2031 | D29            | NGC 2259 | 48            | NGC 3446 | 94                     | NGC 6649   | 66             | Pat 103         | 9, 17          | Ru 71  | 95                     | SAI 88     | 95, 96         | SL 874 | 30                | Tr 9      | 83, 84             | Al 80B          | 79, 90, 91             |
| NGC 2036 | D29            | NGC 2260 | 60            | NGC 3496 | 104                    | NGC 6664   | 54, 66         | Pat 1           | 7, 15          | Ru 72  | 83, 95                 | SAI 91     | 95, 96, 105    | SL 874 | D29               | Tr 10     | 95                 | Al 82           | 103                    |
| NGC 2038 | D29            | NGC 2262 | 60            | NGC 3519 | D9                     | NGC 6683   | 54, 66         | Pat 3           | 8              | Ru 73  | 95, 104, 105           | SAI 109    | 94, 95, 104    | SL 874 | 30                | Tr 11     | 104                | Al 93           | 95, 96, 105            |
| NGC 2041 | D29            | NGC 2264 | 48            | NGC 3532 | 104, D9                | NGC 6698   | 78             | Pat 4           | 7, 8, 15       | Ru 74  | 83, 95                 | SAI 116    | D4             | SL 874 | 15                | Tr 12     | 104                | Al 110          | 48, 60                 |
| NGC 2046 | D29            | NGC 2265 | 48            | NGC 3572 | D9                     | NGC 6704   | 54             | Pat 2           | 95, 96         | Ru 75  | 104, 105               | SAI 118    | 103            | SL 874 | 15                | Tr 13     | 104                | Al 111          | 16, 17, 28             |
| NGC 2047 | D29            | NGC 2266 | 36            | NGC 3590 | D9                     | NGC 6709   | 42             | Pat 3           | 83, 95         | Ru 76  | 94, 95, 104            | SAI 132    | 29, 30         | SL 874 | 15                | Tr 14     | D9                 | Al 115          | 42                     |
| NGC 2051 | D29            | NGC 2269 | 60            | NGC 3603 | 103, D9, D4            | NGC 6716   | 66             | Pat 4           | 95             | Ru 77  | 104                    | SAI 149    | 8, 15          | SL 874 | 14, 15            | Tr 15     | D9                 | Al J0022.7+5417 | 15                     |
| NGC 2053 | D29            | NGC 2270 | 60            | NGC 3680 | 94                     | NGC 6724   | 42             | Pat 5           | 95             | Ru 78  | 95, 104                | Schuster 1 | 104            | SL 874 | 14, 15            | Tr 16     | D9                 | Al J0120.9-4933 | 98, 99                 |
| NGC 2056 | D29            | NGC 2281 | 24            | NGC 3766 | 103, D4, D4            | NGC 6728   | 54, 66         | Pat 7           | 83, 95         | Ru 79  | 104                    | Sher 1     | D9             | SL 874 | 37                | Tr 17     | D9                 | Al J0123.1-3329 | 87                     |
| NGC 2057 | D29            | NGC 2286 | 60            | NGC 3909 | 93, 94                 | NGC 6735   | 54             | Pat 8           | 95             | Ru 81  | 94, 95                 | Sk 1       | 2, 7, 15       | SL 874 | 37                | Tr 18     | D9                 | Al J0232.4-5127 | 98, 99, 107            |
| NGC 2058 | D29            | NGC 2301 | 60            | NGC 3960 | 103, 104               | NGC 6737   | 66             | Pat 11          | 95, 104        | Ru 82  | 104                    | Sk 2       | 25             | SL 874 | 24, 25, 37        | Tr 19     | D9                 | Al J0234.0+4002 | 26                     |
| NGC 2059 | D29            | NGC 2302 | 60, 72        | NGC 4052 | 103, 104, 110, 111, D4 | NGC 6738   | 42             | Pat 12          | 95             | Ru 83  | 104                    | Sk 3       | 37             | SL 874 | 8                 | Tr 20     | 103, 104           | Al J0240.4-5247 | 98, 106, 107           |
| NGC 2062 | D29            | NGC 2304 | 48            | NGC 4103 | 103, D4, D4            | NGC 6743   | 30             | Pat 15          | 94, 95         | Ru 84  | 104                    | Sk 4       | 48             | SL 874 | 8, 16, 27         | Tr 21     | 103                | Al J0304.6-5116 | 98, 106, 107           |
| NGC 2065 | D29            | NGC 2306 | 60, 72        | NGC 4184 | D4                     | NGC 6755   | 54             | Pat 16          | 95, 104        | Ru 85  | 104                    | Sk 5       | 48             | SL 874 | 13                | Tr 22     | 102, 103           | Al J0343.5-2924 | 86                     |
| NGC 2066 | D29            | NGC 2309 | 60, 72        | NGC 4230 | 103, 104               | NGC 6756   | 54             | Pat 19          | 102, 103       | Ru 86  | 104                    | Sk 6       | 17, 18, 30     | SL 874 | 103, 104, 110, D4 | Tr 23     | 102                | Al J0345.0-2749 | 86                     |
| NGC 2072 | D29            | NGC 2311 | 60            | NGC 4337 | 103, 104               | NGC 6773   | 54             | Pat 20          | 102, 103       | Ru 87  | 94, 95, 104            | Sk 7       | 8, 15          | SL 874 | 103, 104, D4      | Tr 25     | 91                 | Al J0404.5+7921 | 6, 7                   |
| NGC 2088 | D29            | NGC 2312 | 48            | NGC 4349 | 103, 104               | NGC 6774   | 66             | Pat 21          | 102, 103       | Ru 88  | 104                    | Sk 8       | 104            | SL 874 | 103               | Tr 26     | 79                 | Al J0615.1+4849 | 24, 25                 |
| NGC 2091 | D29            | NGC 2319 | 60            | NGC 4439 | 103, 104               | NGC 6775   | 54             | Pat 22          | 91, 92, 102    | Ru 89  | 104                    | SL 14      | D29            | SL 874 | 7, 8, 15          | Tr 27     | 79                 | Al J0624.3-3151 | 84                     |
| NGC 2092 | D29            | NGC 2324 | 60            | NGC 4463 | 103, 104, 110, 111     | NGC 6791   | 18, 30         | Pat 23          | 91, 92         | Ru 90  | 104                    | SL 28      | 112, 113       | SL 874 | 2, 7, 8, 15       | Tr 28     | 79                 | Al J0639.8-2349 | 72, 84                 |
| NGC 2093 | D29            | NGC 2331 | 36            | NGC 4609 | 103, 104               | NGC 6793   | 30, 42         | Pat 24          | 79             | Ru 91  | 104                    | SL 41      | 112, 113       | SL 874 | 8, 15             | Tr 29     | 90, 91             | Al J0641.1+1647 | 48                     |
| NGC 2095 | D29            | NGC 2335 | 72            | NGC 4755 | 103                    | NGC 6800   | 30             | Pat 27          | 36, 48         | Ru 92  | D9                     | SL 49      | D29            | SL 874 | 2, 8, 15          | Tr 30     | 78, 79, 90, 91, D5 | Al J0644.7-4658 | 96                     |
| NGC 2096 | D29            | NGC 2338 | 60, 72        | NGC 4815 | 103, 110               | NGC 6802   | 42             | Pismis-Moreno 1 | 8              | Ru 94  | 103, 104, D4           | SL 56      | D29            | SL 874 | 8, 15             | Tr 31     | 101, 102           | Al J0659.5-1027 | 72                     |
| NGC 2097 | 105, 106       | NGC 2343 | 72            | NGC 4852 | 103                    | NGC 6811   | 17, 18         | Platais 1       | 16, 17         | Ru 95  | 103, 104, D4           | SL 75      | D29            | SL 874 | 14, 15            | Tr 32     | 66                 | Al J0700.4-2746 | 84                     |
| NGC 2098 | D29            | NGC 2345 | 72            | NGC 5043 | 103                    | NGC 6819   | 17, 18         | R 136           | D29            | Ru 96  | D4                     | SL 76      | D29            | SL 874 | 8, 15             | Tr 33     | 66                 | Al J0708.5+2159 | 36, 48                 |
| NGC 2100 | D29            | NGC 2348 | 105, 111, 112 | NGC 5138 | 103                    | NGC 6823   | 30, 42         | Reiland 1       | 8              | Ru 97  | D4                     | SL 105     | D29            | SL 874 | 18, 30            | Tr 34     | 54, 66             | Al J0709.5-0557 | 60, 72                 |
| NGC 2102 | D29            | NGC 2349 | 60, 72        | NGC 5168 | 103                    | NGC 6827   | 30, 42         | Rie 4           | 15             | Ru 98  | 103, 104, 110, 111, D4 | SL 106     | D29            | SL 874 | 14, 15            | Tr 35     | 54                 | Al J0710.3-1826 | 72                     |
| NGC 2105 | D29            | NGC 2352 | 72, 84        | NGC 5269 | 103                    | NGC 6828   | 42, 54         | Rie 11          | 60             | Ru 99  | D4                     | SL 111     | D29            | SL 874 | 42                | Tr 37     | 8                  | Al J0712.6-0236 | 60                     |
| NGC 2107 | D29            | NGC 2353 | 72            | NGC 5281 | 103                    | NGC 6830   | 30, 41, 42     | Rie 14          | D4             | Ru 100 | D4                     | SL 112     | D29            | SL 874 | 29, 30            | Tu 1      | 29, 30             | Al J0715.6-0727 | 60, 72                 |
| NGC 2108 | D29            | NGC 2354 | 84            | NGC 5288 | 103                    | NGC 6832   | 9              | Ro 1            | 42             | Ru 101 | D4                     | SL 114     | D29            | SL 874 | 41, 42            | Tu 3      | 66                 | Al J0721.8-3631 | 84, 96                 |
| NGC 2109 | D29            | NGC 2355 | 48            | NGC 5316 | 103                    | NGC 6834   | 29, 30         | Ro 2            | 30, 42         | Ru 104 | 103, 104               | SL 116     | D29            | SL 874 | 41, 42            | Tu 5      | 83, 95             | Al J0725.2-2717 | 84                     |
| NGC 2111 | D29            | NGC 2358 | 72            | NGC 5359 | 110                    | NGC 6837   | 42             | Ro 3            | 29, 30, 41, 42 | Ru 105 | 103, 104               | SL 117     | D29            | SL 874 | 37                | Tu 6      | D9                 | Al J0727.9-5141 | 95, 96, 105            |
| NGC 2112 | 61             | NGC 2360 | 72            | NGC 5381 | 103                    | NGC 6840   | 41, 42         | Ro 4            | 29, 30         | Ru 107 | 103                    | SL 123     | D29            | SL 874 | 24, 25            | Tu 8      | 30                 | Al J0734.9+1154 | 48                     |
| NGC 2114 | D29            | NGC 2362 | 84            | NGC 5460 | 92, 93                 | NGC 6843   | 41, 42         | Ro 5            | 29, 30, D1     | Ru 108 | 103                    | SL 134     | D29            | SL 874 | 25, 37            | vdB 1     | 60                 | Al J0740.5-5155 | 95, 96, 105            |
| NGC 2116 | D29            | NGC 2364 | 60, 72        | NGC 5593 | 103                    | NGC 6846   | 29, 30         | Ro 6            | 17, 29, D1     | Ru 110 | 103, 110               | SL 153     | D29            | SL 874 | 30                | vdB 80    | 72                 | Al J0743.0-0005 | 60                     |
| NGC 2117 | D29            | NGC 2367 | 72, 84        | NGC 5606 | 102, 103               | NGC 6856   | 9              | Ro 7            | 17, 29         | Ru 111 | 102, 103               | SL 168     | 106, 112       | SL 874 | 17, 18, 29, D1    | vdB 113   | 66, 78             | Al J0753.2-1936 | 71, 72, 83             |
| NGC 2118 | D29            | NGC 2374 | 72            | NGC 5617 | 102, 103               | NGC 6858   | 41, 42         | Ro 8            | 72             | Ru 112 | 102, 103               | SL 176     | D29            | SL 874 | 37                | vdB 130   | 17, 18, D1         | Al J0753.4-3423 | 83, 84, 95             |
| NGC 2120 | 105, 106       | NGC 2383 | 72, 84        | NGC 5662 | 102, 103               | NGC 6866   | 17, 18         | Ro 2            | 84             | Ru 113 | 102                    | SL 191     | D29            | SL 874 | 37                | vdB-Ha 4  | 84, 96             | Al J0800.4-0452 | 59, 60, 71, 72         |
| NGC 2121 | D29            | NGC 2384 | 72, 84        | NGC 5715 | 102, 103               | NGC 6871   | 17, 18, 29, D1 | Ro 3            | 84             | Ru 114 | 102                    | SL 212     | D29            | SL 874 | 37                | vdB-Ha 19 | 83, 84             | Al J0812.4-3507 | 83, 84, 95, 96         |
| NGC 2123 | 105, 106       | NGC 2394 | 48, 60        | NGC 5749 | 102, 103               | NGC 6874   | 17, 18, 29, D1 | Ro 4            | 72             | Ru 115 | 91, 92, 102            | SL 216     | D29            | SL 874 | 48                | vdB-Ha 23 | 83, 84, 95, 96     | Al J0813.5-5011 | 95, 96, 105            |
| NGC 2125 | D29            | NGC 2395 | 48            | NGC 5764 | 92, 102, 103           | NGC 6883   | 17, 18, 29, D1 | Ro 5            | 72             | Ru 116 | 91, 92, 102            | SL 222e    | D29            | SL 874 | 60                | vdB-Ha 34 | 95                 | Al J0814.1-1432 | 71                     |
| NGC 2126 | 13, 14, 24, 25 | NGC 2396 | 72            | NGC 5800 | 92, 102, 103           | NGC 6885   | 29, 30         | Ro 6            | 72             | Ru 117 | 91, 92, 102            | SL 228w    | D29            | SL 874 | D6                | vdB-Ha 37 | 95                 | Al J0814.5-5806 | 105                    |
| NGC 2129 | 36, 37, 48, 49 | NGC 2401 | 72            | NGC 5822 | 102, 103               | NGC 6910   | 17, 18, D1     | Ro 7            | 72             | Ru 119 | 91, 92, 102            | SL 230     | D29            | SL 874 | 8, 16             | vdB-Ha 54 | 95                 | Al J0817.5-2521 | 83                     |
| NGC 2130 | D29            | NGC 2409 | 72            | NGC 5823 | 102, 103               | NGC 6938   | 29, 41         | Ro 8            | 72             | Ru 120 | 91, 92                 | SL 232     | D29            | SL 874 | 25, 37            | vdB-Ha 55 | 95                 | Al J0838.5-2502 | 83                     |
| NGC 2133 | D29            | NGC 2414 | 72            | NGC 5925 | 102                    | NGC 6939   | 8, 9           | Ro 10           | 72             | Ru 121 | 91                     | SL 234     | D29            | SL 874 | 17                | vdB-Ha 56 | 95                 | Al J0839.8-2629 | 83                     |
| NGC 2134 | D29            | NGC 2420 | 36, 48        | NGC 5999 | 102                    | NGC 6940   | 29             | Ru 11           | 72, 84         | Ru 122 | 91                     | SL 291     | D29            | SL 874 | 7, 8, 15          | vdB-Ha 58 | 104, 105           | Al J0927.5-3810 | 83, 95                 |
| NGC 2135 | D29            | NGC 2421 | 72, 84        | NGC 6005 | 102                    | NGC 6950   | 41             | Ru 12           | 84             | Ru 123 | 79, 91                 | SL 296     | D29            | SL 874 | 83, 84            | vdB-Ha 63 | 95, 104            | Al J0951.3-4634 | 94, 95                 |
| NGC 2136 | D29            | NGC 2423 | 72            | NGC 6025 | 102                    | NGC 6991-1 | 17             | Ru 13           | 84             | Ru 125 | 91                     | SL 298     | D29            | SL 874 | 42                | vdB-Ha 66 | 104                | Al J1032.5-4437 | 94                     |
| NGC 2137 | D29            | NGC 2425 | 72            | NGC 6031 | 102                    | NGC 6991-2 | 17             | Ru 14           | 84             | Ru 126 | 79                     | SL 349     | D29            | SL 874 | D1                | vdB-Ha 67 | 94, 95, 104        | Al J1053.2-5750 | D9                     |
| NGC 2138 | D29            | NGC 2428 | 72            | NGC 6067 | 102                    | NGC 6991a  | 17             | Ru 15           | 72             | Ru 127 | 79, 91                 | SL 368     | D29            | SL 874 | 17, 29, D1        | vdB-Ha 72 | 95, 104            | Al J1058.3-3727 | 82, 94                 |
| NG       |                |          |               |          |                        |            |                |                 |                |        |                        |            |                |        |                   |           |                    |                 |                        |



|            |              |                    |                |             |                |                |                        |            |                |              |                |              |                |                   |              |                         |                        |                    |                |
|------------|--------------|--------------------|----------------|-------------|----------------|----------------|------------------------|------------|----------------|--------------|----------------|--------------|----------------|-------------------|--------------|-------------------------|------------------------|--------------------|----------------|
| Cr 62      | 25           | Kro 2              | 66             | NGC 2218    | 48             | Ren 25         | 31, 32                 | Str 76     | 81             | ESO 28-8     | 108, 113       | NGC 6362     | 102, 109       | DG 187            | 16           | IC 417                  | 37                     | NGC 1491           | 14, 25, 26     |
| Cr 91      | 60           | Kro 5              | 30             | NGC 2220    | 96, 97         | Ren 27         | 24, 25                 | Str 78     | 29, 30         | ESO 121-3    | 105, 106       | NGC 6366     | 55             | DuRe 1            | 103, 104     | IC 420                  | 67                     | NGC 1499           | 25, 26, 37, 38 |
| Cr 96      | 60           | Kro 7              | 92, 102        | NGC 2224    | 48             | Ren 37         | 54                     | Str 79     | 85             | ESO 280-6    | 90, 91         | NGC 6380     | 91             | DWB 7-15          | D1           | IC 423                  | 61                     | NGC 1555           | 49             |
| Cr 97      | 48, 60       | Kro 8              | 09             | NGC 2234    | 48             | Ru 30          | 84                     | Str 80     | 72             | ESO 452-11   | 79             | NGC 6388     | 90, 91         | DWB 20            | D1           | IC 424                  | 61                     | NGC 1579           | 37             |
| Cr 106     | 48, 60       | Kro 17             | 63, 75         | NGC 2240    | 36             | Ru 103         | D4                     | Str 81     | 86             | Fornax 1     | 86             | NGC 6397     | 91, 101, 102   | DWB 21            | D1           | IC 426                  | 61                     | NGC 1714           | D29            |
| Cr 173     | 95, 96       | Kro 19             | 71, 83         | NGC 2318    | 72             | Ru 124         | 91                     | Str 83     | 79, 80, 91, 92 | Fornax 2     | 86             | NGC 6401     | 79             | DWB 25-27         | D1           | IC 430                  | 61, 73                 | NGC 1715           | D29            |
| Cr 257     | 103, 104     | Kro 20             | 66             | NGC 2368    | 72             | Ru 129         | 78, 79                 | Str 88     | 76, 87         | Fornax 4     | 86             | NGC 6517     | 55             | DWB 28            | D1           | IC 431                  | 61                     | NGC 1722           | D29            |
| Cr 302     | 67, 79       | Kro 22             | 53             | NGC 2413    | 72             | Ru 146         | 66, 78                 | Str 89     | 76, 87, 88, 99 | Fornax 5     | 86             | NGC 6440     | 67, 79         | DWB 51            | D1           | IC 432                  | 61                     | NGC 1727           | D29            |
| Cr 316     | 91           | Kro 32             | 36, 37         | NGC 2459    | 48             | Ru 172         | D1                     | Str 90     | 87, 99         | Fornax 6     | 86             | NGC 6441     | 78, 79, 90, 91 | DWB 54            | D1           | IC 434                  | 61                     | NGC 1736           | D29            |
| Cr 399     | 42           | Kro 35             | D1             | NGC 2664    | 47             | Ru 173         | 17, 29                 | Str 91     | 85             | G 1          | 27             | NGC 6453     | 78, 79, 90, D5 | DWB 72            | D1           | IC 435                  | 61                     | NGC 1737           | D29            |
| Cr 464     | 5, 6, 7      | Kro 42             | 17, 18         | NGC 2678    | 47             | Sachariassen 1 | 12                     | Thompson 1 | 41             | GLIMPSE -C01 | 54             | NGC 6496     | 90, 91         | DWB 77            | D1           | IC 443                  | 36, 48                 | NGC 1743           | D29            |
| Cr 471     | 2, 3, 7      | Kro 44             | 17, 18         | NGC 2879    | 71             | Sal 4          | 35, 36                 | Topler 2   | 36, 37         | GLIMPSE -C02 | 66             | NGC 6517     | 66, 67         | DWB 111           | 17, 18       | IC 444                  | 36, 48                 | NGC 1745           | D29            |
| Crinklaw 1 | 54, 66       | Kro 45             | 9, 17, 18      | NGC 2886    | 71, 83         | Sal 8          | 18, 30                 | TPK 1      | 16, 27         | Hodge 11     | D29            | NGC 6522     | 78, 79         | DWB 114           | 17, 18       | IC 446                  | 48                     | NGC 1747           | D29            |
| Do 2       | D1           | Kro 56             | D1             | NGC 4937    | 93             | Sal 14         | 42, 43                 | Tr 24      | 91             | HP 1         | 79             | NGC 6528     | 78, 79         | DWB 118           | 17, 18       | IC 448                  | 48, 60                 | NGC 1763           | D29            |
| Do 9       | 17, 18       | Kro 65             | D1             | NGC 4982    | 69             | Slo 4          | 106                    | Upgren 1   | 21, 33         | IC 1257      | 55, 67         | NGC 6535     | 54, 55         | DWB 129           | 17, 18       | IC 466                  | 60                     | NGC 1769           | D29            |
| Do 10      | D1           | Kro 76             | D1             | NGC 5355    | 3, 4, 5        | Slo 8          | 97, 98                 | vdB 150    | 2, 3, 7        | IC 1276      | 54, 66         | NGC 6539     | 54, 66         | DWB 130           | 17           | IC 1274                 | D6                     | NGC 1773           | D29            |
| Do 11      | 17           | Kro 78             | 17, 29         | NGC 5571    | 32             | Slo 8          | 106, 112, 113          | Slo 12     | 52             | IC 4499      | 110, 114       | NGC 6540     | 78, 79         | DWB 145-148       | 17, 18       | IC 1275                 | D6                     | NGC 1788           | 61             |
| Do 12      | 8, 15        | Kro J0124.0+5612   | 15             | NGC 5998    | 79, 80         | Slo 10         | 84, 96                 | vdB-Ha 214 | 79, 91         | Koposov 1    | 45, 46         | NGC 6541     | 90, 91         | DWB 165           | 17, 18       | IC 1283                 | 66                     | NGC 1829           | D29            |
| Do 17      | 49, 61       | Kro J0156.7+5358   | 15             | NGC 6151    | 109, 11        | Slo 11         | 84                     | Wa 6       | 95             | Koposov 2    | 35, 36         | NGC 6544     | 78, 79, D6     | DWB 34/39/40      | D1           | IC 1284                 | 66                     | NGC 1858           | D29            |
| Do 19      | 49, 61       | Kro J0324.0+4714   | 26             | NGC 6222    | 91             | Slo 15         | 83, 84, 95, 96         | Watson 2   | 9, 18          | Liller 1     | 79             | NGC 6553     | 78, 79         | DWB 35/41         | D1           | IC 1287                 | 66                     | NGC 1874/76/77     | D29            |
| Do 20      | 37           | Kro J0347.4+6635   | 6, 7, 14       | NGC 6354    | 79, 91         | Slo 16         | 83, 84, 96             | Webb 2     | 30, 31         | L77          | 102            | NGC 6558     | 78, 79         | DWB 55/59         | 17, D1       | IC 1318A (DWB 82)       | 17, 18                 | NGC 1895           | D29            |
| Do 21      | 49, 61       | Kro J0434.3+5436   | 14             | NGC 6413    | 43             | Slo 20         | 83                     | Zannin 1   | 27, 39         | M 2          | 53             | NGC 6569     | 78, 79         | GAL 289182-00.696 | D9           | IC 1318B (DWB 72/77/81) | D1                     | NGC 1909 (IC 2118) | 61, 73         |
| Do 26      | 48           | Kro J0542.8+1917   | 49             | NGC 6432    | 79             | Slo 21         | 83                     | Zannin 3   | 26             | M 3          | 33             | NGC 6584     | 90, 91, 101    | GM 1-3            | 2, 7         | IC 1318C (DWB 76)       | D1                     | NGC 1918           | D29            |
| Do 27      | 55, 67       | Kro J0551.8+0614   | 49, 61         | NGC 6465    | 78, 79         | Slo 22         | 95                     | Zannin 5   | 6, 7, 14       | M 4          | 79             | NGC 6624     | 78             | GM 1-27           | D1           | IC 1340                 | 29                     | NGC 1929           | D29            |
| Do 29      | 54, 66       | Kro J0604.2+0911   | 48, 49, 60, 61 | NGC 6481    | 55             | Slo 26         | 104                    |            |                | M 5          | 56             | NGC 6638     | 78             | GM 1-29           | 2, 3, 9      | IC 1396                 | 8                      | NGC 1931           | 37             |
| Do 35      | 42           | Kro J0607.1+3212   | 36, 37         | NGC 6669    | 30, 42         | Slo 32         | 82                     |            |                | M 9          | 67             | NGC 6642     | 66, 78         | GM 1-56           | 42           | IC 1470                 | 8                      | NGC 1934           | D29            |
| Do 36      | 17, 18       | Kro J1948.4+4306   | 17, 18         | NGC 6839    | 41, 42         | Slo 33         | 82                     |            |                | M 10         | 55             | NGC 6652     | 78             | GM 1-66           | 25, 37       | IC 1795                 | 14, 15                 | NGC 1935           | D29            |
| Do 37      | D1           | Kro J2013.1+5934   | 9              | NGC 6863    | 53             | Slo 35         | D4                     |            |                | M 12         | 55             | NGC 6712     | 54, 66         | GM 1-73           | 48, 60       | IC 1805                 | 14, 15                 | NGC 1936           | D29            |
| Do 38      | D1           | Kro J2039.9+5034   | 9, 17, 18      | NGC 6904    | 29             | Slo 37         | D4                     |            |                | M 13         | 19, 31         | NGC 6717     | 66, 78         | GM 2-39           | D1           | IC 1848                 | 14, 15                 | NGC 1945/8         | D29            |
| Do 43      | D1           | Kro J2109.9+2312   | 29, 41         | NGC 6953    | 2, 3, 8, 9     | Slo 40         | 103, 104, 110, 111, D4 |            |                | M 14         | 55             | NGC 6723     | 78, 90         | GM 3-13           | 8            | IC 1871                 | 14, 15                 | NGC 1949           | D29            |
| Do 44      | 17           | Kro J2109.6+5230   | 8, 9, 17       | NGC 6996    | 17             | Slo 42         | 110, 111               |            |                | M 15         | 41             | NGC 6749     | 54             | GM 3-14           | 8            | IC 2067                 | 37                     | NGC 1965/6         | D29            |
| Do 46      | 8            | Kro J2149.6+4104   | 16, 17         | NGC 7050    | 17, 29         | Slo 44         | 103                    |            |                | M 19         | 79             | NGC 6752     | 101            | GN 5.11.2         | 37           | IC 2087                 | 37                     | NGC 1970           | D29            |
| Do 2       | 50           | Kro J2153.7+4518   | 16, 17         | NGC 7084    | 41             | Slo 45         | 103                    |            |                | M 22         | 66, 78         | NGC 6760     | 54             | GN 5.28.8         | 49           | IC 2105                 | D29                    | NGC 1973           | 61, D7         |
| Do 2       | 49           | Kro J2233.8+6549   | 2, 8           | NGC 7134    | 65             | Slo 51         | 102                    |            |                | M 28         | 78             | NGC 6934     | 41, 53         | GN 12.41.9        | 103          | IC 2111                 | D29                    | NGC 1975           | 61, D7         |
| Do 3       | 37           | Larad 1            | 8, 9           | NGC 7150    | 16, 17         | Slo 53         | 91, 92                 |            |                | M 30         | 65, 77         | NGC 7006     | 41             | GN 15.22.7        | 80           | IC 2128                 | D29                    | NGC 1977           | 61, D7         |
| Do 4       | 37           | Le-Wa 1            | 17, 18, 29, 30 | NGC 7186    | 16, 17, 28, 29 | Slo 54         | 102                    |            |                | M 53         | 45             | NGC 7492     | 64             | GN 16.36.5        | 109, 114     | IC 2144                 | 36, 37, 49             | NGC 1985           | 37             |
| Do 5       | 19, 31       | Le-Wa J2108.8+0621 | 41, 53         | NGC 7193    | 40, 41         | Slo 55         | 79, 80, 91, 92         |            |                | M 54         | 78             | Pal 1        | 6, 7           | GN 17.05.5        | 109, 110     | IC 2159                 | 48                     | NGC 1999           | 61, 73         |
| Do 6       | 19, 31       | Le-Wa J2204.3+4508 | 16, 17         | NGC 7295    | 9, 16          | Slo 56         | 79, 80                 |            |                | M 55         | 78             | Pal 2        | 37             | GN 18.46.6        | 54           | IC 2162                 | 48                     | NGC 2018           | D29            |
| Do 7       | 43           | Le-Wa J2340.5+5619 | 8, 15          | NGC 7352    | 8              | Slo 57         | 102, 109, 110          |            |                | M 58         | 38             | Pal 3        | 58             | GN 22.33.6        | 2, 8         | IC 2169                 | 48                     | NGC 2020           | D29            |
| Do 8       | 31, 43       | Lederman 1         | 26, 27         | NGC 7708    | 2, 7           | Sn 20          | 17, 18                 |            |                | M 62         | 79             | Pal 4        | 34             | Gum 12            | 94, 95       | IC 2177                 | 72                     | NGC 2023           | 61             |
| Do 9       | 30, 31       | LeDrew 7           | 54             | NGC 7795    | 8, 15          | Spano 1        | 51, 63                 |            |                | M 68         | 81             | Pal 5        | 56             | Gum 12            | 95, 105      | IC 2220                 | 105                    | NGC 2024           | 61             |
| Do 10      | D1           | LeDrew 8           | 30, 31         | NGC 7833    | 28, 39         | Spano 2        | 85, 97                 |            |                | M 69         | 78             | Pal 6        | 79             | Gum 12            | 95, 105      | IC 2631                 | 110, 111               | NGC 2029           | D29            |
| Do 11      | 17, 29       | Leiter 3           | 1, 6           | O'Neal 1    | 53             | Str 1          | 36                     |            |                | M 70         | 78             | Pal 8        | 66             | Gum 12            | 95, 96, 105  | IC 2872                 | D4                     | NGC 2030           | 105, 106, 112  |
| Elo 1      | 49, 61       | Leiter 4           | 41, 42         | O'Neal 2    | 92             | Str 2          | 36                     |            |                | M 71         | 41, 42         | Pal 10       | 42             | Gum 15            | 95           | IC 2944/8               | 103, 104, 110, 111, D4 | NGC 2032           | D29            |
| Elo 3      | 48           | Leiter 5           | 42             | O'Neal 3    | 53, 65         | Str 3          | 36                     |            |                | M 72         | 65             | Pal 11       | 54, 66         | Gum 17            | 95           | IC 2966                 | D4                     | NGC 2035           | D29            |
| Elo 4      | 70           | Leiter 9           | 17             | O'Neal 4    | 73             | Str 5          | 15                     |            |                | M 75         | 65, 66, 77, 78 | Pal 12       | 65, 77         | Gum 23            | 95           | IC 4592                 | 67, 79                 | NGC 2040           | D29            |
| French 1   | 41           | Leiter 11          | 36             | O'Neal 5    | 73             | Str 6          | 71                     |            |                | M 79         | 85             | Pal 13       | 40             | Gum 25            | 95, 104, 105 | IC 4601                 | 67                     | NGC 2048           | D29            |
| French 2   | 82, 83       | Ling 1             | 30             | O'Neal 7    | 73             | Str 7          | 105, 111               |            |                | M 80         | 67, 79         | Pal 14       | 43             | Gum 32            | D9           | IC 4603                 | 79                     | NGC 2064           | 61             |
| French 3   | 30, 42       | Ling 2             | 42             | O'Neal 8    | 49             | Str 10         | 108, 109               |            |                | M 92         | 19             | Pal 15       | 55             | Gum 39            | D4           | IC 4604                 | 67, 79                 | NGC 2067           | 61             |
| Frr 5      | 37           | Llano 1            | 57             | O'Neal 10   | 82             | Str 11         | 82                     |            |                | M 107        | 67             | PWM 78       | 54, 55         | Gum 41            | D4           | IC 4605                 | 79                     | NGC 2070           | 112, D29       |
| Frr 6      | 11           | Lo 143             | 104            | O'Neal 11   | 68, 80         | Str 12         | 82                     |            |                | NGC 104      | 108, 113, D28  | Pyxis GC     | 83, 95         | Gum 49            | 102          | IC 4628                 | 91                     | NGC 2071           | 61             |
| Frr 7      | 8, 15        | Lo 480             | D4             | O'Neal 13   | 42, 54         | Str 13         | 109, 110               |            |                | NGC 121      | D28            | Reticulum GC | 106            | Gum 50            | 102          | IC 4678                 | D6                     | NGC 2074           | D29            |
| Frr 18     | 36           | Lo 1373            | 102, 103       | O'Neal 14   | 64             | Str 14         | 109, 110               |            |                | NGC 288      | 87             | Ru 106       | 93, 94, 103    | Hen 5             | D29          | IC 4684                 | D6                     | NGC 2075           | D29            |
| Frr 24     | 92, 102, 103 | Lo 1375            | 102, 103       | O'Neal 15   | 64, 76         | Str 15         | 90, 91                 |            |                | NGC 1925     | 106, 112       | Ter 1        | 79             | Hen 16            | D29          | IC 4703                 | 66                     | NGC 2077           | D29            |
| Frr 25     | 76, 88       | Lor 1              | 37, 49         | O'Neal 16   | 64, 76         | Str 17         | 85                     |            |                | NGC 1937     | D29            | Ter 2        | 79             | Hen 17            | D29          | IC 4706                 | 66                     | NGC 2078-9/83-4    | D29            |
| Frr 26     | 25, 26, 38   | Lor 2              | 43             | Pardanaud 1 | 59             | Str 18         | 85, 97                 |            |                | NGC 1955     | D29            | Ter 3        | 79, 91         | Hen 21            | D29          | IC 4812                 | 78, 90                 | NGC 2080           | D29            |
| Frr 37     | 68           | Lor 3              | 66, 78         | Pat 1       | 15, 26, 27     | Str 19         | 85                     |            |                | NGC 1968     | D29            | Ter 4        | 79             | Hen 22            | D29          | IC 4954                 | 29, 30                 | NGC 2085-6         | D29            |
| Haf 3      | 60, 72       | Lor 4              | 41, 42         | Pat 2       | 26             | Str 21         | 111, 112, 114          |            |                | NGC 1974     | D29            | Ter 5        | 79             | Hen 30            | D29          | IC 4955                 | 29, 30                 | NGC 2103           | D29            |
| Haf 5      | 72, 84       | Lor 5              | 66             | Pat 10      | 8, 16, 17      | Str 22         | 69                     |            |                | NGC 2001     | D29            | Ter 6        | 78, 79         | Hen 30A           | D29          | IC 5067/770             | 17                     | NGC 2113           | D29            |
| Haf 25     | 84           | Lor 6              | 8              | Pat 11      | 15, 27         | Str 23         | 69                     |            |                | NGC 2013     | 13, 14         | Ter 7        | 78             | Hen 35            | D28          | IC 5068                 | 17                     | NGC 2122           | D29            |
| Ho 1       | 94, 95, 104  | Lor 11             | 101, 102       | Pat 14      | 14, 15, 26     | Str 24         | 58, 70                 |            |                | NGC 2014     | D29            | Ter 8        | 78             | Hen 37            | D28          | IC 5076                 | 17                     | NGC 2149           | 72, 73         |
| Ho 8       | 104          | Lor 15             | 72             | Pat 15      | 37, 38         | Str 25         | 36                     |            |                | NGC 2015     | D29            | Ter 9        | 78, 79         | Hen 49            | 106, 112     | IC 5146                 | 16, 17                 | NGC 2163           | 48             |
| Hrr 1      | 1            | Lor 23             | 58             | Pat 29      | 30, 31, 42     | Str 26         | 112, 113               |            |                | NGC 2027     | D29            | Ter 10       | 78, 79         | Hen 50            | D29          | IC 5146                 | 16, 17                 | NGC 2163           | 48             |
| Hrr 2      | D10          | Lor 25             | 94, 104        | Pat 40      | 64             | Str 27         | 107                    |            |                | NGC 2033     | D29            | Ter 11       | D6             | Hen 51            | D29          | LBN 30                  | 55, 67                 | NGC 2170           | 60, 72         |
| Hrr 5      | 60, 72       | M 40               | 11, 12         |             |                |                |                        |            |                |              |                |              |                |                   |              |                         |                        |                    |                |



|              |                    |              |             |        |        |           |                    |       |                    |            |               |                |                    |          |                |            |                |              |                    |
|--------------|--------------------|--------------|-------------|--------|--------|-----------|--------------------|-------|--------------------|------------|---------------|----------------|--------------------|----------|----------------|------------|----------------|--------------|--------------------|
| NGC 6914     | 17, 18             | Sh 2-305     | 72          | B 27   | 37     | B 125     | 54                 | B 256 | 79                 | B 358      | 17            | Sa 163         | 103                | Abell 4  | 26             | Drilling 1 | 94             | He 2-85      | 103, 104, 110, 111 |
| NGC 6960     | 29                 | Sh 2-307     | 72          | B 28   | 37     | B 126     | 54                 | B 257 | 79, 91             | B 359      | 8, 9          | Sa 164         | 103                | Abell 5  | 14, 15, 26     | EGB 1      | 2, 7           | He 2-86      | 103, 104, 110, 111 |
| NGC 6974/9   | 29                 | Sh 2-308     | 72, 84      | B 29   | 37     | B 127     | 54                 | B 258 | 79                 | B 360      | 8, 9          | Sa 166         | 102, 103           | Abell 6  | 14, 15         | EGB 6      | 47             | He 2-88      | 103                |
| NGC 6995     | 29                 | Sh 2-310     | 84          | B 30   | 49     | B 128-131 | 54                 | B 259 | 67                 | B 361      | 17            | Sa 167         | 103                | Abell 7  | 73             | ESO 40-11  | 109, 110, 111  | He 2-90      | 103                |
| NGC 7000     | 17                 | Simeis 3-123 | 66          | B 31   | 49     | B 129     | 54                 | B 260 | 79                 | B 362      | 8, 16, 17     | Sa 169         | 102, 103           | Abell 8  | 25, 37         | ESO 259-10 | 95, 96         | He 2-96      | 103                |
| NGC 7023     | 2, 3               | Simeis 3-210 | 29          | B 32   | 49     | B 130     | 54, 66             | B 261 | 67, 79             | B 363      | 16, 17        | Sa 170         | 102, 103, 110      | Abell 9  | 25, 37         | Fg 1       | 90, 91         | He 2-97      | 110, 111           |
| NGC 7129     | 2, 8               | Simeis 147   | 37          | B 33   | 61     | B 132     | 54                 | B 262 | 67, 79             | B 364      | 8             | Sa 171         | 102, 103           | Abell 10 | 49, 61         | Fg 2       | 90, 104        | He 2-102     | 103                |
| NGC 7538     | 8, 15              | Simeis 159   | 48          | B 34   | 36, 37 | B 133     | 54, 66             | B 263 | 91                 | B 365      | 8             | Sa 172         | 102, 103           | Abell 12 | 48, 49         | Fg 3       | 90, 91         | He 2-103     | 102, 103           |
| NGC 7635     | 8, 15              | V838 Mon     | 60          | B 35   | 49, 61 | B 134     | 54, 66             | B 264 | 79                 | B 366      | 8, 9          | Sa 173         | 102, 103           | Abell 13 | Fr 2-25        | 59, 71     | He 2-104       | 92, 93, 103  |                    |
| NGC 7822     | 2, 7               | vdB 1        | 8, 15       | B 36   | 49, 61 | B 135     | 54                 | B 265 | 79                 | B 367      | 8             | Sa 174         | 102, 103           | Abell 14 | 48             | GLMP 621   | 55, 67         | He 2-105     | 109, 110, 111      |
| Parsamyan 21 | 42                 | vdB 2        | 2, 7, 8, 15 | B 37/8 | 48     | B 136     | 54                 | B 266 | 67, 79             | B 368      | 8             | Sa 175         | 91, 92, 102        | Abell 15 | 84             | GN 18.32.5 | 54             | He 2-108     | 92, 93, 103        |
| PKS 1209-52  | 93, 103, 104       | vdB 8        | 7, 15       | B 39   | 48     | B 137/8   | 54                 | B 267 | 79                 | B 369      | 8             | Sa 176         | 91, 92, 102        | Abell 16 | 13, 14         | H 1-1      | 79, 80, 92     | He 2-109     | 103                |
| Pup A        | 95, 96             | vdB 10       | 14, 15      | B 40   | 67     | B 139     | 54                 | B 268 | 67, 79             | B 370      | 8             | Sa 177         | 102                | Abell 18 | 60             | H 1-2      | 79, 91         | He 2-111     | 102, 103           |
| RCW 19       | 83, 84, 95, 96     | vdB 11       | 14, 15      | B 41   | 67     | B 140     | 54                 | B 269 | 67, 79             | Bernes 142 | 110, 111      | Sa 178         | 91, 102            | Abell 19 | 48             | H 1-4      | 79             | He 2-112     | 92, 103            |
| RCW 27       | 95                 | vdB 16       | 38          | B 42   | 67, 79 | B 141     | 54                 | B 270 | 67                 | Bernes 145 | 102, 103, 110 | Sa 179         | 91, 92             | Abell 20 | 60             | H 1-7      | 91             | He 2-114     | 102, 103           |
| RCW 34       | 95                 | vdB 20       | 08          | B 43   | 67, 79 | B 142     | 42                 | B 271 | 79, 91             | GDC 4      | 95, 96, 105   | Sa 180         | 91, 92             | Abell 21 | 48             | H 1-11     | 67, 79         | He 2-115     | 102, 103           |
| RCW 54       | 09                 | vdB 23       | 08          | B 44   | 67, 79 | B 143     | 42                 | B 272 | 67, 79             | GDC 7      | 95, 96, 105   | Sa 181         | 91, 92             | Abell 22 | 60             | H 1-16     | 79             | He 2-116     | 102, 103           |
| RCW 57       | 09                 | vdB 24       | 25, 26, 38  | B 44a  | 91     | B 144     | 17, 29, 30, D1     | B 273 | 79                 | LDN 582    | 54            | Sa 182         | 91, 92             | Abell 23 | 83, 84, 95     | H 1-17     | 79             | He 2-117     | 102, 103           |
| RCW 58       | 104, 111           | vdB 27       | 37          | B 45   | 67, 79 | B 145     | 17, 18, 29, 30, D1 | B 274 | 67, 79             | LDN 669    | 42            | Sa 183         | 91, 102            | Abell 24 | 60             | H 1-21     | 91             | He 2-118     | 92                 |
| RCW 64       | 04                 | vdB 29       | 37          | B 46   | 67, 79 | B 146     | 01                 | B 275 | 79                 | LDN 673    | 42            | Sa 184         | 91                 | Abell 25 | 59             | H 1-23     | 79             | He 2-120     | 102, 103           |
| RCW 71       | 103, 104           | vdB 31       | 37          | B 47   | 67, 79 | B 147     | 01                 | B 276 | 67                 | LDN 676    | 42            | Sa 185         | 91, 102            | Abell 26 | 83, 84         | H 1-26     | 91             | He 2-123     | 102                |
| RCW 75       | 103                | vdB 35       | 49          | B 48   | 91     | B 148     | 8, 9               | B 277 | 67, 79             | LDN 684    | 42            | Sa 186         | 91                 | Abell 27 | 83             | H 1-27     | 67, 79         | He 2-128     | 91, 92, 102        |
| RCW 85       | 102, 103           | vdB 37       | 49          | B 49   | 79     | B 149     | 8, 9               | B 278 | 79                 | LDN 688    | 42            | Sa 187-8       | 91                 | Abell 28 | 12, 13         | H 1-29     | 05             | He 2-129     | 92, 102            |
| RCW 86       | 102, 103           | vdB 38       | 49, 61      | B 50   | 79     | B 150     | 8, 9               | B 279 | 67, 79             | LDN 720    | 42            | Sa 189         | 91                 | Abell 29 | 71, 83         | H 1-31     | 05             | He 2-131     | 109, 110           |
| RCW 103      | 91, 92, 102        | vdB 40       | 49, 61      | B 51   | 67, 79 | B 151     | 8, 9               | B 280 | 67, 79             | LDN 778    | 30, 42        | Sa 190         | 91                 | Abell 30 | 47             | H 1-32     | 05             | He 2-132     | 102, 103           |
| RCW 104      | 91, 92, 102        | vdB 43       | 49, 61      | B 53   | 79     | B 152     | 8, 9               | B 281 | 67, 79             | LDN 807    | 30            | Sa 191         | 91                 | Abell 31 | 47, 59         | H 1-33     | 05             | He 2-133     | 102                |
| RCW 113      | 91                 | vdB 45       | 37          | B 54   | 79     | B 153     | 8, 9               | B 282 | 67, 79             | LDN 808    | 30            | Sa 192         | 91                 | Abell 33 | 59             | H 1-35     | 05             | He 2-136     | 102, 103, 109, 110 |
| RCW 132      | 79                 | vdB 48       | 61          | B 55   | 79     | B 154     | 8, 9               | B 283 | 05                 | LDN 831    | 29, 30        | Sa 193         | 90, 91             | Abell 34 | 71             | H 1-36     | 78, 79, 90, 91 | He 2-138     | 102, 109, 110      |
| Sh 2-3       | 79, 91             | vdB 54       | 61, 73      | B 56   | 79     | B 155     | 16, 17             | B 284 | 67                 | LDN 848    | 01            | Sa 194         | 90, 91             | Abell 35 | 69, 81         | H 1-37     | 90, 91         | He 2-141     | 102                |
| Sh 2-9       | 79                 | vdB 56       | 49          | B 57   | 67, 79 | B 156     | 16, 17             | B 285 | 67                 | LDN 856    | 01            | Sa 195         | 90, 91             | Abell 36 | 69             | H 1-40     | 78, 79         | He 2-143     | 102                |
| Sh 2-27      | 55, 67             | vdB 62       | 61          | B 58   | 91     | B 157     | 8                  | B 286 | 05                 | LDN 862    | 01            | SDC 2871-2.7   | 104                | Abell 38 | 79             | H 1-41     | 05             | He 2-149     | 102                |
| Sh 2-34      | 66, 67, 78, 79, 06 | vdB 64       | 72, 73      | B 59   | 79     | B 158     | 16, 17             | B 287 | 05                 | LDN 889    | 01            | SDC 294.4-3.1  | 04                 | Abell 39 | 31             | H 1-42     | 05             | He 2-153     | 91, 102            |
| Sh 2-44      | 66                 | vdB 65       | 36, 37      | B 60   | 67, 79 | B 159     | 16, 17             | B 288 | 78, 79, 90, 91     | LDN 961    | 17            | SDC 295.8-0.3  | 04                 | Abell 40 | 67, 79         | H 1-45     | 78, 79         | He 2-158     | 102                |
| Sh 2-54      | 66                 | vdB 68       | 60, 72      | B 61   | 67, 79 | B 160     | 8                  | B 289 | 78, 79             | LDN 962    | 9, 17         | SDC 298.3-4.5  | 103, 104, 110, 111 | Abell 41 | 67             | H 1-46     | 78, 79         | He 2-159     | 102                |
| Sh 2-80      | 42                 | vdB 69       | 60, 72      | B 62   | 67, 79 | B 161     | 8                  | B 290 | 78, 79, 90, 91     | LDN 963    | 17            | SDC 299.0-4.0  | 103, 104, 110, 111 | Abell 42 | 55, 67         | H 1-50     | 78, 79         | He 2-161     | 91, 102            |
| Sh 2-82      | 42                 | vdB 83       | 84          | B 63   | 67, 79 | B 162     | 8                  | B 291 | 05                 | LDN 966    | 8, 9, 17      | SDC 300.1-2.7  | 04                 | Abell 43 | 42             | H 1-52     | 78, 79, 90, 91 | He 2-163     | 102                |
| Sh 2-83      | 30, 42             | vdB 87       | 60, 72      | B 64   | 79     | B 163     | 8                  | B 292 | 78, 79, 05         | LDN 986    | 16, 17        | SDC 300.9-2.6  | 103, 110           | Abell 44 | 66             | H 1-54     | 78, 79         | He 2-164     | 91, 102            |
| Sh 2-84      | 42                 | vdB 92       | 72          | B 65   | 67     | B 164     | 8, 16, 17          | B 293 | 78, 79, 90, 91, 05 | LDN 1029   | 8, 9, 17      | SDC 301.7-2.6  | 103                | Abell 45 | 66             | H 1-56     | 78, 79         | He 2-165     | 102                |
| Sh 2-88      | 30                 | vdB 95       | 72          | B 66   | 79     | B 165     | 8                  | B 294 | 78, 79             | LDN 1604   | 48            | SDC 302.3-17.7 | 110, 111           | Abell 46 | 30             | H 1-59     | 78, 79         | He 2-170     | 91, 102            |
| Sh 2-90      | 30                 | vdB 96       | 72, 84      | B 67   | 79     | B 166     | 8                  | B 295 | 78, 79             | LDN 1609   | 48            | SDC 302.6-15.9 | 110, 111           | Abell 47 | 54             | H 1-60     | 78             | He 2-171     | 79                 |
| Sh 2-91      | 30                 | vdB 97       | 72          | B 67a  | 67, 79 | B 167     | 8                  | B 296 | 78, 79, 06         | LDN 1613   | 48, 60        | SDC 303.0-16.6 | 110, 111, 114      | Abell 48 | 54             | H 1-63     | 78             | He 2-175     | 79, 91             |
| Sh 2-92      | 30                 | vdB 98       | 84          | B 68   | 67, 79 | B 168     | 16, 17             | B 297 | 66, 67             | LDN 1719   | 67, 79        | SDC 303.8+1.3  | 103, 104           | Abell 49 | 54, 66         | H 1-66     | 78             | He 2-182     | 102                |
| Sh 2-93      | 29, 30             | vdB 101      | 67          | B 69   | 67, 79 | B 169     | 8                  | B 298 | 78, 79             | LDN 1758   | 78, 79, 05    | SDC 304.7-0.3  | 103                | Abell 51 | 66             | H 1-67     | 66, 78         | He 2-185     | 109, 110           |
| Sh 2-94      | 30                 | vdB 111      | 43, 55      | B 70   | 79     | B 170     | 8                  | B 299 | 78, 79             | LDN 1782   | 67            | SDC 305.0-3.6  | 103, 110           | Abell 52 | 42             | H 2-1      | 79             | He 2-186     | 91, 102            |
| Sh 2-101     | 01                 | vdB 123      | 54          | B 71   | 79     | B 171     | 8                  | B 300 | 78, 79             | LDN 1788   | 78, 79        | SDC 305.2-1.6  | 103                | Abell 53 | 42, 54         | H 2-39     | 78, 79         | He 2-207     | 91                 |
| Sh 2-102     | 29                 | vdB 126      | 30, 42      | B 72   | 67, 79 | B 173     | 8                  | B 301 | 66                 | Sa 101     | 95, 96        | SDC 307.2-1.0  | 103                | Abell 54 | 30, 42         | H 2-43     | 78             | He 2-248     | 90, 91, 102        |
| Sh 2-104     | 01                 | vdB 130      | 01          | B 73   | 79     | B 174     | 8                  | B 302 | 06                 | Sa 102     | 96            | SDC 308.0+2.1  | 103                | Abell 55 | 54             | H 2-48     | 66, 78         | He 2-306     | 90, 91             |
| Sh 2-106     | 01                 | vdB 131      | 17, 18      | B 74   | 79     | B 175     | 2                  | B 303 | 06                 | Sa 103     | 95, 96        | SDC 308.3+5.8  | 103                | Abell 56 | 54             | H 3-75     | 49             | He 2-318     | 78                 |
| Sh 2-107     | 17, 29             | vdB 132      | 17, 18      | B 75   | 67, 79 | B 201     | 15                 | B 304 | 66                 | Sa 104     | 95, 96        | SDC 312.5+3.0  | 103                | Abell 57 | 30             | H 4-1      | 02a            | He 2-430     | 42                 |
| Sh 2-112     | 17                 | vdB 133      | 01          | B 76   | 79     | B 202     | 38                 | B 305 | 78, 79             | Sa 105     | 95, 96        | SDC 317.1-2.6  | 102, 103           | Abell 58 | 54             | Hafr 10    | 54             | He 2-434     | 108, 109           |
| Sh 2-115     | 17, 18             | vdB 138      | 17          | B 77   | 79     | B 203     | 38                 | B 306 | 78                 | Sa 106     | 95, 96, 105   | SDC 319.3-3.5  | 102, 103           | Abell 59 | 42             | HaWe 2     | 14, 15         | He 2-436     | 78                 |
| Sh 2-119     | 17                 | vdB 140      | 8, 9        | B 78   | 79     | B 204     | 38                 | B 307 | 66                 | Sa 107     | 95, 96, 105   | SDC 319.4+2.2  | 102, 103           | Abell 60 | 66             | HaWe 3     | 26             | He 2-438     | 30                 |
| Sh 2-124     | 8, 16, 17          | vdB 141      | 2, 8        | B 79   | 67     | B 205     | 38                 | B 308 | 66, 78             | Sa 108     | 95, 96, 105   | SDC 322.2-4.5  | 102, 103           | Abell 61 | 18             | HaWe 4     | 26             | He 3-1312    | 91, 102            |
| Sh 2-126     | 16, 28             | vdB 142      | 8           | B 80   | 67, 79 | B 206     | 38                 | B 309 | 78                 | Sa 109     | 95, 96, 105   | SDC 324.3-3.8  | 102                | Abell 62 | 42             | HaWe 5     | 25, 26, 37, 38 | He 3-1333    | 102                |
| Sh 2-128     | 8                  | vdB 143      | 2, 8        | B 81   | 79     | B 207     | 37, 38             | B 310 | 66                 | Sa 111     | 95, 96, 105   | SDC 325.3-2.8  | 102                | Abell 63 | 42             | HaWe 7     | 72             | He 3-1357    | 102                |
| Sh 2-129     | 8, 9               | vdB 147      | 16, 17      | B 82   | 67, 79 | B 208     | 37, 38             | B 311 | 66                 | Sa 112     | 95, 96, 105   | SDC 325.6-3.0  | 102                | Abell 65 | 66, 78         | HaWe 8     | 36, 48         | He 3-1475    | 67                 |
| Sh 2-132     | 8                  | vdB 148      | 8           | B 83   | 79     | B 209     | 37, 38             | B 312 | 66                 | Sa 114     | 95            | SDC 325.9+5.9  | 91, 92, 102        | Abell 66 | 65, 66, 77, 78 | HaWe 9     | 84             | He 3-1863    | 89, 90             |
| Sh 2-135     | 8                  | vdB 149      | 2, 3, 7     | B 83a  | 67     | B 210     | 37                 | B 313 | 66                 | Sa 115     | 95            | SDC 326.9-3.2  | 102                | Abell 67 | 53, 54         | HaWe 10    | 48             | HFG 1        | 14, 15             |
| Sh 2-140     | 8                  | vdB 150      | 2, 3, 7     | B 84   | 67, 79 | B 211     | 37                 | B 314 | 66                 | Sa 116     | 95            | SDC 332.4-3.3  | 102                | Abell 68 | 29, 30, 41, 42 | HaWe 12    | 78             | HFG 2        | 84                 |
| Sh 2-142     | 8                  | vdB 152      | 2           | B 84a  | 66, 67 | B 212     | 37                 | B 315 | 66                 | Sa 117     | 94, 95        | SDC 334.7-1.0  | 91, 92             | Abell 69 | 54             | HaWe 13    | 54             | HoCr 1       | 36, 48             |
| Sh 2-147     | 8                  | vdB 155      | 8           | B 85   | 06     | B 213     | 37                 | B 316 | 54                 | Sa 119     | 94, 95, 104   | SDC 336.8-3.1  | 91                 | Abell 70 | 53, 65         | HaWe 14    | 77, 78         | Hoffleit 2-1 | 05                 |
| Sh 2-148     | 8                  | vdB 157      | 2, 7        |        |        |           |                    |       |                    |            |               |                |                    |          |                |            |                |              |                    |



|                         |            |        |        |            |                |             |              |              |                  |             |               |            |               |             |               |             |                  |             |                  |
|-------------------------|------------|--------|--------|------------|----------------|-------------|--------------|--------------|------------------|-------------|---------------|------------|---------------|-------------|---------------|-------------|------------------|-------------|------------------|
| IC 4846                 | 54, 66     | M 1-14 | 72     | M 3-27     | 42             | NGC 6790    | 54           | Sh 2-216     | 25               | CGCG 266-9  | 12, 22, 23    | ESO 51-11  | 107, 108, 113 | ESO 108-16  | 100, 108      | ESO 151-12  | 99, 107          | ESO 217-14  | 93, 94, 103, 104 |
| IC 4997                 | 41         | M 1-16 | 72     | M 3-29     | 78             | NGC 6803    | 42           | Shane 1      | 55               | CGCG 266-31 | 12            | ESO 53-16  | 112, 113      | ESO 108-21  | 100, 108      | ESO 151-27  | 107              | ESO 217-15  | 93, 94, 103, 104 |
| IC 5117                 | 16, 17     | M 1-17 | 72     | M 3-30     | 66             | NGC 6804    | 42, 54       | Shewood 1    | 01               | CGCG 279-3  | 5, 10         | ESO 55-29  | 029           | ESO 110-8   | 100, 113      | ESO 153-18  | 98, 99, 107      | ESO 218-2   | 93, 103          |
| IC 5148-50              | 88, 89     | M 1-18 | 72     | M 3-32     | 78             | NGC 6807    | 54           | ShWi2-5      | 78, 79           | CGCG 292-85 | 9, 11, 12     | ESO 55-33  | 029           | ESO 111-6   | 100, 107      | ESO 153-20  | 107              | ESO 218-4   | 93, 94, 103      |
| IC 5217                 | 8, 16, 17  | M 1-19 | 79     | M 3-33     | 78             | NGC 6818    | 66           | Simeis 22    | 15               | CGCG 300-14 | 9, 10         | ESO 56-154 | 029           | ESO 111-10  | 100, 107      | ESO 153-23  | 107              | ESO 219-7   | 93               |
| IPHASX J194359.5+170901 | 42         | M 1-20 | 67     | M 3-34     | 54, 66         | NGC 6826    | 17, 18       | SMC-MG 9     | 028              | CGCG 320-35 | 10            | ESO 57-73  | 029           | ESO 112-5   | 100, 107      | ESO 153-24  | 98, 99, 107      | ESO 219-14  | 93               |
| IRAS 09371+1212         | 47         | M 1-22 | 67     | M 3-35     | 29             | NGC 6833    | 17, 18       | SMC-SMP 13   | 028              | CGCG 333-64 | 4, 5          | ESO 58-5   | 105, 112      | ESO 113-30  | 107           | ESO 153-29  | 107              | ESO 219-18  | 93, 103          |
| IRAS 16342-3814         | 79, 91     | M 1-23 | 67     | M 3-36     | 79             | NGC 6842    | 29, 30       | SMC-SMP 15   | 028              | CGCG 368-2  | 1, 3          | ESO 58-14  | 111, 112      | ESO 113-41  | 107           | ESO 153-34  | 98, 107          | ESO 219-21  | 93, 103          |
| IRAS 16594-4656         | 91         | M 1-24 | 67     | M 4-2      | 84, 96         | NGC 6852    | 53, 54       | SMC-SMP 17   | 028              | CGCG 380-9  | 52            | ESO 58-19  | 111, 112      | ESO 113-45  | 107           | ESO 154-13  | 106, 107         | ESO 219-39  | 93               |
| IRAS 17106-3046         | 79         | M 1-25 | 67, 79 | M 4-3      | 79             | NGC 6879    | 41           | SMC-SMP 27   | 028              | CGCG 395-16 | 61            | ESO 59-11  | 111, 112      | ESO 113-50  | 107           | ESO 155-14  | 106, 107         | ESO 219-41  | 93               |
| IRAS 17245-3951         | 91         | M 1-26 | 79     | M 4-9      | 54             | NGC 6881    | 01           | Sp 1         | 91, 92, 102      | CGCG 406-13 | 40, 52        | ESO 60-12  | 105, 111, 112 | ESO 114-4   | 107           | ESO 158-3   | 106              | ESO 220-6   | 93, 103          |
| IRAS 18059-3211         | 78, 79     | M 1-29 | 78, 79 | M 4-10     | 66             | NGC 6884    | 17, 18       | Sp 3         | 90, 91, 101, 102 | CGCG 420-15 | 61            | ESO 60-19  | 111, 112      | ESO 115-8   | 106, 107      | ESO 158-17  | 106              | ESO 220-9   | 92, 93           |
| IRAS 19477+2401         | 30         | M 1-30 | 05     | M 4-11     | 66             | NGC 6886    | 41           | Sp 4-1       | 18, 30           | CGCG 421-27 | 61            | ESO 60-26  | 111, 112      | ESO 115-25A | 106, 107      | ESO 159-2   | 97, 106          | ESO 221-3   | 92, 93           |
| IsWe 1                  | 25, 26     | M 1-31 | 66     | M 4-14     | 42, 54         | NGC 6891    | 41           | Steph 3-1    | 60               | CGCG 436-26 | 51            | ESO 60-27  | 111, 112      | ESO 116-1   | 106, 107      | ESO 159-4   | 106              | ESO 221-6   | 92, 93           |
| IsWe 2                  | 2, 8       | M 1-32 | 66, 67 | M 4-17     | 17, 18         | NGC 6894    | 29           | StrW 4-10    | 91, 92           | CGCG 454-71 | 40            | ESO 61-5   | 111, 112      | ESO 116-12  | 106, 107      | ESO 159-12  | 106              | ESO 221-8   | 92, 93           |
| J320                    | 49         | M 1-33 | 66, 67 | M 2-7      | 29, 30, 41, 42 | NGC 6905    | 41           | SwSt 1       | 78               | CGCG 496-50 | 28            | ESO 61-8   | 111           | ESO 118-12  | 106, 113      | ESO 159-19  | 97, 106          | ESO 221-8A  | 92, 93           |
| J900                    | 48         | M 1-34 | 78, 79 | M 5-7      | 15, 26, 27     | NGC 7008    | 8, 9, 17     | TDC 1        | 54               | CGCG 500-74 | 39            | ESO 61-15  | 111           | ESO 118-30  | 106           | ESO 160-2   | 105, 106         | ESO 221-9   | 92, 93           |
| Jacobyn 1               | 10, 20     | M 1-35 | 78, 79 | M 76       | 15, 26, 27     | NGC 7009    | 65           | Te 11        | 61               | CGCG 501-58 | 39            | ESO 62-3   | 111           | ESO 118-34  | 106           | ESO 160-22  | 105, 106         | ESO 221-10  | 92, 93           |
| Jn 1                    | 28         | M 1-40 | 06     | M 9-7      | 12, 17         | NGC 7026    | 17           | TeJu 18      | 79               | CGCG 524-54 | 26, 38        | ESO 68-4   | 109, 110      | ESO 119-11  | 106           | ESO 161-24  | 105              | ESO 221-13  | 92, 93           |
| JnEr1                   | 13, 23, 24 | M 1-42 | 78, 79 | MA 54      | 028            | NGC 7027    | 17           | TeJu 21      | 79               | Cvnl Dwarf  | 33            | ESO 68-7   | 109, 110      | ESO 119-13  | 106           | ESO 161-25  | 105              | ESO 221-14  | 92, 93           |
| K 1-20                  | 16, 27     | M 1-46 | 66     | MA 1011    | 028            | NGC 7048    | 17           | Th 2-A       | 103              | Cvnl Dwarf  | 33            | ESO 68-12  | 102, 109, 110 | ESO 119-25  | 106           | ESO 162-2   | 96, 105          | ESO 221-18  | 92, 93           |
| K 1-22                  | 82         | M 1-47 | 66, 78 | MaC 1-10   | 028            | NGC 7076    | 8, 9         | Th 3-1       | 79               | ESO 2-10    | 114           | ESO 68-16A | 102, 109, 110 | ESO 119-48  | 105, 106      | ESO 162-17  | 105              | ESO 221-20  | 92, 93           |
| K 1-23                  | 93         | M 1-50 | 66     | MaC 1-16   | 66             | NGC 7094    | 41           | Th 4-5       | 67               | ESO 3-1     | 114           | ESO 69-1   | 102, 109, 110 | ESO 119-53  | 105, 106      | ESO 163-14  | 105              | ESO 221-26  | 92, 93           |
| K 1-30                  | 91, 92     | M 1-52 | 66     | MaC 2-1    | 61, 73         | NGC 7139    | 8, 9         | V-3-6        | 66               | ESO 3-7     | 113, 114      | ESO 69-10  | 109, 110      | ESO 119-54  | 105, 106      | ESO 171-4   | 103, 104         | ESO 221-27  | 92, 93           |
| K 2-1                   | 37         | M 1-53 | 66     | Mayall 60  | 104            | NGC 7293    | 64, 76       | VBR 1        | 83, 95           | ESO 3-13    | 113, 114      | ESO 69-11  | 109, 110      | ESO 119-55  | 105, 106      | ESO 171-8   | 93, 103, 104     | ESO 221-32  | 92, 93           |
| K 2-2                   | 48         | M 1-54 | 66     | Me 1-1     | 42             | NGC 7354    | 8            | VBR 2        | 104              | ESO 4-10    | 114           | ESO 69-14  | 109, 110      | ESO 121-6   | 105, 106      | ESO 181-1   | 101, 102         | ESO 221-34A | 92, 93           |
| K 3-1                   | 54         | M 1-56 | 66     | Me 2-1     | 68, 80         | NGC 7662    | 16           | Vd 1-1       | 79, 91           | ESO 5-6     | 114           | ESO 70-2   | 109, 110      | ESO 121-26  | 105, 106      | ESO 182-1   | 101, 102         | ESO 221-37  | 92, 93           |
| K 3-4                   | 54         | M 1-57 | 66     | Me 2-2     | 16, 17         | Outters 1   | 14, 25, 26   | Vd 1-4       | 91               | ESO 5-10    | 114           | ESO 70-4   | 109, 110      | ESO 122-1   | 105           | ESO 182-4   | 90, 91, 101, 102 | ESO 221-38  | 90, 91, 101, 102 |
| K 3-26                  | 54         | M 1-58 | 66     | MGP 2      | 92, 102, 103   | Outters 2   | 8, 15        | Vd 1-6       | 79, 91           | ESO 6-6     | 114           | ESO 70-5   | 109, 110      | ESO 122-3   | 105, 106      | ESO 182-7   | 101, 102         | ESO 221-39  | 90, 91, 101      |
| K 3-27                  | 30         | M 1-59 | 66     | MRMG 1     | 8              | Outters 3   | 30, 42       | Volk 2       | 95, 96           | ESO 8-7     | 110, 114      | ESO 70-6   | 109, 110      | ESO 122-16  | 105           | ESO 182-8   | 101, 102         | ESO 221-40  | 90               |
| K 3-35                  | 30, 42     | M 1-60 | 66     | MWP 1      | 29             | Outters 4   | 8, 9         | Volk 3       | 95               | ESO 9-2     | 114           | ESO 70-13  | 109           | ESO 124-14  | 104, 105, 112 | ESO 182-10  | 101, 102         | ESO 221-41  | 90, 101          |
| K 3-36                  | 42, 54     | M 1-61 | 66     | MyCn 18    | 103, 110       | P 1-1       | 104          | Vy 1-1       | 8, 15, 27        | ESO 9-3     | 114           | ESO 71-13  | 108, 109      | ESO 126-1   | 104, 105      | ESO 183-3   | 101              | ESO 221-42  | 90, 101          |
| K 3-51                  | 41, 42     | M 1-62 | 66, 78 | MyCn 26    | 79             | P 1-2       | 104          | Vy 1-2       | 30, 31           | ESO 9-7     | 114           | ESO 72-13  | 101, 108, 109 | ESO 126-2   | 104, 105      | ESO 183-30  | 101              | ESO 221-43  | 90               |
| K 3-66                  | 37         | M 1-63 | 66     | Mz 1       | 102, 103       | P 1-3       | 09           | Vy 1-4       | 54, 66           | ESO 9-11    | 109, 114      | ESO 73-6   | 108, 109      | ESO 126-3   | 104, 105      | ESO 183-34  | 101              | ESO 221-44  | 90               |
| K 3-67                  | 25, 37     | M 1-64 | 30     | Mz 2       | 102            | P 1-4       | 91, 92, 102  | Vy 2-1       | 78               | ESO 10-3    | 114           | ESO 73-13  | 108, 109      | ESO 126-10  | 104, 105      | ESO 184-5   | 90, 101          | ESO 221-45  | 90               |
| K 3-68                  | 37         | M 1-66 | 54     | Mz 3       | 91, 92, 102    | P 1-5       | 91, 92       | Vy 2-2       | 42               | ESO 11-3    | 108, 114      | ESO 73-18  | 108, 109      | ESO 126-14  | 104, 105      | ESO 184-15  | 101              | ESO 221-46  | 90               |
| K 3-81                  | 17, 29     | M 1-69 | 54     | Nassau 1   | 55             | P 1-8       | 91           | Vy 2-3       | 16               | ESO 12-12   | 108, 113      | ESO 73-19  | 108, 109      | ESO 126-17  | 104, 105      | ESO 184-16  | 101              | ESO 221-47  | 90, 101          |
| K 3-82                  | 8, 16, 17  | M 1-71 | 42     | Nassau 2   | 66             | P 1-13      | 66, 78       | W 1-1        | 2, 7, 15         | ESO 12-21   | 108, 113      | ESO 74-7   | 108, 109      | ESO 126-21  | 104, 105      | ESO 184-26  | 101              | ESO 221-48  | 90, 101          |
| K 3-84                  | 16, 17     | M 1-73 | 42     | NeVe 2     | 01             | P 1-16      | 54, 66       | W 1-9        | 29, 30           | ESO 13-12   | 108, 113      | ESO 74-9A  | 108, 109      | ESO 126-24  | 104, 105      | ESO 184-33  | 101              | ESO 221-49  | 89, 90           |
| K 3-89                  | 8, 15      | M 1-74 | 42     | NGC 40     | 2, 7           | P 1-18      | 54, 66       | WeBo 1       | 14, 15           | ESO 13-16   | 108, 113      | ESO 74-20A | 108, 109      | ESO 126-25  | 104, 105      | ESO 184-34  | 90, 101          | ESO 221-50  | 89, 90, 101      |
| K 4-5                   | 54, 66     | M 1-77 | 17     | NGC 246    | 75             | P 1-19      | 54, 66       | WeDe 1       | 48, 49           | ESO 15-5    | 112, 113, 114 | ESO 75-28  | 108, 109      | ESO 137-2   | 102           | ESO 184-42  | 101              | ESO 221-51  | 89, 90, 101      |
| K 4-8                   | 54, 66     | M 1-79 | 16, 17 | NGC 1360   | 86             | P 2-4       | 95, 104      | WeSb 1       | 15               | ESO 15-8    | 112, 113, 114 | ESO 75-32  | 100, 108      | ESO 137-6   | 102           | ESO 184-43  | 101              | ESO 221-52  | 89, 90           |
| K 4-10                  | 42         | M 1-80 | 8      | NGC 1501   | 14             | P 2-13      | 78           | WeSb 5       | 41, 42           | ESO 15-18   | 112, 113      | ESO 75-56  | 108           | ESO 137-7   | 102           | ESO 184-47  | 101              | ESO 221-53  | 89, 90           |
| KFR 1                   | 04         | M 1-92 | 30     | NGC 1514   | 37, 38         | Pa-Ru 2-1   | 97           | Wray 15-1537 | 79               | ESO 17-2    | 111, 112      | ESO 76-31  | 108, 113      | ESO 137-8   | 102           | ESO 184-71  | 90, 101          | ESO 221-54  | 89, 90, 101      |
| KJpn 1                  | 01         | M 2-2  | 14     | NGC 1535   | 78             | Patchick 1  | 29, 30       | Wray 15-1876 | 78               | ESO 17-6    | 111, 112      | ESO 77-2   | 108, 113      | ESO 137-10  | 102           | ESO 184-81  | 90, 101          | ESO 221-55  | 89, 90           |
| KJpn 2                  | 01         | M 2-4  | 79     | NGC 2022   | 49, 61         | Patchick 15 | 29, 41       | Wray 16-93   | 04               | ESO 17-9    | 111, 112      | ESO 77-3   | 108, 113      | ESO 137-12  | 102, 110      | ESO 185-25  | 101              | ESO 221-56  | 89, 90, 101      |
| KJpn 3                  | 01         | M 2-6  | 79     | NGC 2242   | 24             | Patchick 23 | 41           | Wray 16-122  | 103              | ESO 18-1    | 111, 112      | ESO 77-23  | 108, 113      | ESO 137-18  | 102           | ESO 185-27  | 101              | ESO 221-57  | 89, 90, 101      |
| KJpn 6                  | 2, 8       | M 2-8  | 79     | NGC 2346   | 60             | Patchick 25 | 41           | Wray 16-189  | 91, 92           | ESO 18-2    | 111, 112      | ESO 79-7   | 107, 108, 113 | ESO 137-19  | 102           | ESO 185-32  | 101              | ESO 221-58  | 89, 90, 101      |
| Kron 15                 | 30         | M 2-9  | 67     | NGC 2371-2 | 36             | Patchick 26 | 41           | Wray 16-199  | 91, 92           | ESO 18-7    | 111, 112      | ESO 84-9   | 106, 113      | ESO 137-24  | 102           | ESO 185-37  | 101              | ESO 221-59  | 89, 90, 101      |
| Kron 23                 | 29         | M 2-11 | 79     | NGC 2392   | 36, 48         | PB 1        | 72           | Wray 16-278  | 90, 91           | ESO 18-8    | 111, 112      | ESO 84-14  | 106, 112, 113 | ESO 137-26  | 102           | ESO 185-43A | 101              | ESO 221-60  | 89, 90, 101      |
| Kron 33                 | 14         | M 2-12 | 79     | NGC 2438   | 72             | PB 2        | 95, 96       | Wray 16-282  | 79               | ESO 18-9    | 111, 112      | ESO 84-18  | 106           | ESO 137-29  | 102           | ESO 185-53  | 101              | ESO 221-61  | 89, 101          |
| Kron 56                 | 66         | M 2-13 | 67     | NGC 2440   | 72             | PB 3        | 95, 104, 105 | Wray 16-363  | 78, 79           | ESO 18-13   | 111, 112      | ESO 84-22  | 106, 112, 113 | ESO 137-34  | 102           | ESO 185-54  | 101              | ESO 221-62  | 89, 100, 101     |
| Kron 58                 | 26, 27     | M 2-15 | 67     | NGC 2452   | 84             | PB 4        | 104, 105     | Wray 16-385  | 90, 91           | ESO 18-15   | 111, 112, 114 | ESO 84-28  | 106           | ESO 137-35  | 102           | ESO 185-61A | 101              | ESO 221-63  | 89, 101          |
| Kron 59                 | 9, 10      | M 2-16 | 05     | NGC 2610   | 71             | PB 5        | 95           | Wray 16-411  | 90               | ESO 18-18   | 111, 112, 114 | ESO 84-33  | 106, 112      | ESO 137-36  | 102           | ESO 186-4   | 101              | ESO 221-64  | 89, 101          |
| Kron 60                 | 48         | M 2-17 | 67     | NGC 2792   | 95             | PB 6        | 94, 95       | Wray 16-423  | 78               | ESO 19-3    | 111, 114      | ESO 85-5   | 106           | ESO 137-38  | 102           | ESO 186-12  | 101              | ESO 221-65  | 89, 101          |
| Kron 63                 | 61         | M 2-18 | 05     | NGC 2818A  | 83, 95         | PB 8        | 103, 104     | Wray 17-20   | 95               | ESO 21-2    | 110, 111      | ESO 85-14A | 106           | ESO 137-42  | 102           | ESO 186-36  | 101              | ESO 221-66  | 89, 101          |
| Kron 77                 | 102        | M 2-20 | 78, 79 | NGC 2867   |                |             |              |              |                  |             |               |            |               |             |               |             |                  |             |                  |



|            |       |            |          |             |          |             |             |            |             |            |       |             |       |             |             |             |             |             |             |
|------------|-------|------------|----------|-------------|----------|-------------|-------------|------------|-------------|------------|-------|-------------|-------|-------------|-------------|-------------|-------------|-------------|-------------|
| ESO 264-49 | 94    | ESO 295-12 | 99       | ESO 323-32  | D19      | ESO 352-41  | 87          | ESO 383-49 | 81          | ESO 425-4  | 84,85 | ESO 445-59A | 80,81 | ESO 495-5   | 83          | ESO 512-9   | 80          | ESO 562-23  | 71,83       |
| ESO 265-7  | 94    | ESO 295-13 | 87,99    | ESO 323-34  | D19      | ESO 352-55  | 87          | ESO 383-50 | 81,93       | ESO 425-10 | 84,85 | ESO 445-75  | 80,81 | ESO 495-6   | 83          | ESO 512-18  | 80          | ESO 563-3   | 71,83       |
| ESO 265-29 | 94    | ESO 296-2  | 87,99    | ESO 323-44  | 93       | ESO 352-69  | 87          | ESO 383-60 | 81          | ESO 425-14 | 84    | ESO 446-3   | 80,81 | ESO 495-11  | 83          | ESO 512-19  | 80          | ESO 563-11  | 71          |
| ESO 265-31 | 94    | ESO 296-19 | 87,99    | ESO 323-63  | 93       | ESO 352-73  | 87          | ESO 383-76 | 80,81       | ESO 425-19 | 84    | ESO 446-17  | 80,81 | ESO 495-13  | 83          | ESO 512-20  | 68,80       | ESO 563-14  | 71          |
| ESO 265-35 | 94    | ESO 296-38 | 87,99    | ESO 323-66  | 93       | ESO 353-7   | 87          | ESO 383-81 | 80,81       | ESO 426-7  | 84    | ESO 446-26  | 80,81 | ESO 495-16  | 83          | ESO 512-23  | 80          | ESO 563-17  | 71          |
| ESO 266-3  | 93,94 | ESO 297-3  | 87,99    | ESO 323-73  | 81,93    | ESO 353-9   | 87          | ESO 383-87 | 80,81,92,93 | ESO 426-14 | 84    | ESO 446-39  | 80    | ESO 495-21  | 83          | ESO 513-11B | 80          | ESO 563-24  | 71          |
| ESO 266-15 | 93,94 | ESO 297-7  | 87,99    | ESO 323-77  | 93       | ESO 353-25  | 87,99       | ESO 384-6  | 80,81,92    | ESO 427-6  | 84    | ESO 446-49  | 80    | ESO 496-3   | 71,83       | ESO 514-3   | 80          | ESO 563-31  | 71          |
| ESO 266-22 | 93,94 | ESO 297-8  | 99       | ESO 323-79  | 81,93    | ESO 353-26  | 87,99       | ESO 384-12 | 80,81       | ESO 427-29 | 84    | ESO 447-17  | 80    | ESO 497-22  | 83          | ESO 515-3   | 68,80       | ESO 563-33  | 71,83       |
| ESO 267-11 | 93,94 | ESO 298-16 | 98,99    | ESO 323-85  | 93       | ESO 353-40  | 86,87,98,99 | ESO 384-13 | 80,81       | ESO 428-2  | 84    | ESO 447-30  | 80    | ESO 497-27  | 83          | ESO 515-4   | 80          | ESO 563-34  | 71,83       |
| ESO 267-16 | 93,94 | ESO 298-19 | 98,99    | ESO 323-89  | 93       | ESO 354-3   | 86,87,98,99 | ESO 384-19 | D17         | ESO 428-4  | 84    | ESO 447-31  | 80    | ESO 497-39  | 83          | ESO 524-10  | 78          | ESO 563-36  | 71,83       |
| ESO 267-29 | 93,94 | ESO 299-13 | 86,98    | ESO 323-90  | 93       | ESO 354-19  | 86,87,98,99 | ESO 384-21 | D17         | ESO 428-11 | 84    | ESO 448-9   | 80    | ESO 498-4   | 83          | ESO 525-4   | 78          | ESO 564-11  | 71,83       |
| ESO 267-30 | 93,94 | ESO 299-20 | 86,98    | ESO 323-92  | 93       | ESO 354-25  | 86,87       | ESO 384-23 | D17         | ESO 428-14 | 84    | ESO 449-5   | 80    | ESO 498-5   | 83          | ESO 526-4   | 78          | ESO 564-15  | 71          |
| ESO 267-43 | 93,94 | ESO 303-20 | 97       | ESO 323-93  | 93       | ESO 354-26  | 86,87       | ESO 384-26 | D17         | ESO 428-23 | 84    | ESO 449-9   | 80    | ESO 498-6   | 83          | ESO 526-8   | 66,78       | ESO 564-19  | 71          |
| ESO 268-3  | 93,94 | ESO 303-21 | 85,97    | ESO 323-99  | 93       | ESO 354-29  | 86,87       | ESO 384-29 | D17         | ESO 428-29 | 84    | ESO 450-9   | 80    | ESO 499-7   | 82,83       | ESO 526-10  | 66,77,78    | ESO 565-6   | 71          |
| ESO 268-4  | 93,94 | ESO 304-6  | 97       | ESO 324-29  | 93       | ESO 354-33  | 86,87       | ESO 384-35 | D17         | ESO 428-32 | 84    | ESO 451-4   | 79,80 | ESO 499-9   | 71,83       | ESO 526-16  | 65,66,77,78 | ESO 565-7   | 71          |
| ESO 268-5  | 93,94 | ESO 304-21 | 97       | ESO 324-33  | 81,93    | ESO 355-30  | 86          | ESO 384-36 | D17         | ESO 432-17 | 83    | ESO 459-6   | 78    | ESO 499-13  | 82,83       | ESO 526-17  | 77,78       | ESO 565-8   | 71          |
| ESO 268-22 | 93    | ESO 306-7  | 97       | ESO 324-44  | 92,93    | ESO 355-4   | 86          | ESO 384-38 | D17         | ESO 433-7  | 83    | ESO 460-4   | 78    | ESO 499-23  | 82,83       | ESO 527-1   | 65,66,77,78 | ESO 565-11  | 71,83       |
| ESO 268-23 | 93    | ESO 306-9  | 97       | ESO 325-1   | 81,92,93 | ESO 356-9   | 86          | ESO 384-49 | D17         | ESO 433-8  | 83    | ESO 460-9   | 78    | ESO 499-28  | 82,83       | ESO 527-2   | 77,78       | ESO 565-19  | 71,83       |
| ESO 268-36 | 93    | ESO 306-13 | 96,97    | ESO 325-4   | 81,92,93 | ESO 356-13  | 86,98       | ESO 384-51 | 80,81       | ESO 433-18 | 83    | ESO 460-10  | 78    | ESO 499-32  | 82,83       | ESO 527-5   | 77,78       | ESO 565-30  | 71,83       |
| ESO 268-38 | 93    | ESO 306-17 | 96,97    | ESO 325-16  | 81,92,93 | ESO 356-22  | 86,98       | ESO 384-53 | D17         | ESO 433-19 | 83    | ESO 461-2   | 77,78 | ESO 499-41  | 70,71,82,83 | ESO 527-6   | 77,78       | ESO 566-7   | 71          |
| ESO 268-47 | 93    | ESO 307-13 | 96,97    | ESO 325-19A | 81,92,93 | ESO 356-24  | 86,98       | ESO 384-55 | 80,81,92,93 | ESO 434-9  | 83    | ESO 461-5   | 77,78 | ESO 500-41  | 82          | ESO 527-7   | 77,78       | ESO 566-20  | 70,71,82,83 |
| ESO 269-8  | 93    | ESO 309-8  | 84,96    | ESO 325-25  | 92,93    | ESO 356-6   | D10         | ESO 385-15 | 80          | ESO 434-15 | 83    | ESO 461-7   | 77,78 | ESO 501-1   | 82          | ESO 527-11  | 77,78       | ESO 566-24  | 70,71,82    |
| ESO 269-12 | 93    | ESO 309-13 | 96       | ESO 325-28  | 81,92,93 | ESO 358-22  | 86          | ESO 385-17 | 80          | ESO 434-18 | 83    | ESO 461-13  | 77,78 | ESO 501-3   | D22         | ESO 527-19  | 77          | ESO 566-40  | 70,71,82,83 |
| ESO 269-13 | 93    | ESO 309-15 | 84,96    | ESO 325-30  | 81,92,93 | ESO 358-50  | D10         | ESO 385-28 | 80          | ESO 434-28 | 83    | ESO 461-19  | 77,78 | ESO 501-13  | D22         | ESO 528-8   | 65,77       | ESO 567-25  | 70,82       |
| ESO 269-22 | 93    | ESO 311-12 | 95,96    | ESO 325-40  | 92,93    | ESO 358-59  | 85,86,97,98 | ESO 385-32 | 80,92       | ESO 434-40 | 82,83 | ESO 461-31  | 77,78 | ESO 501-16  | D22         | ESO 528-19  | 65,77       | ESO 567-33  | 70,82       |
| ESO 269-25 | 93    | ESO 315-3  | 83,95    | ESO 325-44  | 92,93    | ESO 358-63  | 85,86,97,98 | ESO 386-2  | 80,92       | ESO 435-1  | 82,83 | ESO 461-35  | 77,78 | ESO 501-20  | D22         | ESO 528-36  | 77          | ESO 567-37  | 70,82       |
| ESO 269-31 | 93    | ESO 316-8  | 94,95    | ESO 326-6   | 92,93    | ESO 359-2   | 85,86,97,98 | ESO 386-4  | 80          | ESO 435-16 | 82,83 | ESO 461-42  | 77,78 | ESO 501-24  | 82          | ESO 529-1   | 65,77       | ESO 567-51  | 70,82       |
| ESO 269-38 | 93    | ESO 316-13 | 94,95    | ESO 326-20  | 92       | ESO 362-8   | 85          | ESO 386-9  | 80          | ESO 435-20 | 82,83 | ESO 462-15  | 77    | ESO 501-32  | 82          | ESO 529-2   | 65,77       | ESO 567-52  | 70,82       |
| ESO 269-49 | 93    | ESO 316-25 | 94,95    | ESO 327-1   | 92       | ESO 362-12  | 85,97       | ESO 386-11 | 80,92       | ESO 435-49 | 82,83 | ESO 462-16  | 77    | ESO 501-35  | D22         | ESO 529-3   | 77          | ESO 568-8   | 70,82       |
| ESO 269-57 | 93    | ESO 316-26 | 94,95    | ESO 327-8   | 92       | ESO 362-15  | 85,97       | ESO 386-14 | 80,92       | ESO 436-27 | 82    | ESO 462-20  | 77    | ESO 501-51  | D22         | ESO 529-5   | 77          | ESO 568-21  | 70,82       |
| ESO 269-58 | 93    | ESO 316-31 | 94,95    | ESO 327-17  | 80,92    | ESO 362-18  | 85          | ESO 386-19 | 80,92       | ESO 436-29 | 82    | ESO 463-8   | 77    | ESO 501-56  | D22         | ESO 530-6   | 77          | ESO 569-12  | 70          |
| ESO 269-60 | 93    | ESO 316-32 | 94,95    | ESO 327-20  | 80,92    | ESO 363-18  | 84,85       | ESO 386-31 | 80,92       | ESO 436-44 | D22   | ESO 466-7   | 76,77 | ESO 501-65  | D22         | ESO 531-11  | 65,77       | ESO 569-24  | 70          |
| ESO 269-70 | 93    | ESO 316-33 | 82,94,95 | ESO 327-21  | 92       | ESO 363-27  | 84,85       | ESO 386-33 | 80,92       | ESO 436-46 | D22   | ESO 466-18  | 76,77 | ESO 501-75  | D22         | ESO 531-27  | 77          | ESO 569-27  | 70          |
| ESO 269-72 | 93    | ESO 316-34 | 94,95    | ESO 327-23  | 80,92    | ESO 364-6   | 84,85,96    | ESO 386-34 | 80,92       | ESO 437-4  | D22   | ESO 466-21  | 76,77 | ESO 501-84  | 82          | ESO 532-34  | 64,76       | ESO 571-3   | 70,82       |
| ESO 269-74 | 93    | ESO 316-38 | 82,94,95 | ESO 327-31  | 80,92    | ESO 364-17  | 84,85       | ESO 386-38 | 80,92       | ESO 437-11 | D22   | ESO 466-24  | 76,77 | ESO 501-86  | 82          | ESO 533-6   | 76          | ESO 571-4   | 70,82       |
| ESO 269-80 | 93    | ESO 316-40 | 82,94,95 | ESO 327-39  | 92       | ESO 364-33  | 84,85       | ESO 386-39 | 80,92       | ESO 437-13 | D22   | ESO 466-26  | 76,77 | ESO 501-88  | 70,82       | ESO 533-7   | 76          | ESO 571-12  | 70          |
| ESO 269-85 | 93    | ESO 316-44 | 94,95    | ESO 328-6   | 80,92    | ESO 364-39  | 84,85       | ESO 386-40 | 80,92       | ESO 437-14 | 82    | ESO 466-50  | 76,77 | ESO 501-89  | 82          | ESO 533-14  | 76          | ESO 572-18  | 69,70       |
| ESO 269-90 | 93    | ESO 316-46 | 82,94,95 | ESO 328-19  | 92       | ESO 365-5   | 84,96       | ESO 386-41 | 80,92       | ESO 437-15 | D22   | ESO 467-26  | 76    | ESO 501-102 | 70,82       | ESO 533-24  | 76          | ESO 572-23  | 69,70,81,82 |
| ESO 270-6  | 93    | ESO 316-47 | 94,95    | ESO 328-22  | 92       | ESO 365-9   | 84          | ESO 387-12 | 80,92       | ESO 437-19 | 82    | ESO 467-27  | 76    | ESO 502-5   | 82          | ESO 533-25  | 76          | ESO 572-34  | 69,70       |
| ESO 270-7  | 93    | ESO 317-3  | 82,94,95 | ESO 328-25  | 80,92    | ESO 365-11  | 84,96       | ESO 387-16 | 80,92       | ESO 437-21 | 82    | ESO 467-28  | 76    | ESO 502-8   | 82          | ESO 533-28  | 76          | ESO 572-54  | 69,70,82    |
| ESO 270-14 | 93    | ESO 317-5  | 94,95    | ESO 328-30  | 92       | ESO 366-16  | 84,96       | ESO 387-19 | 80,92       | ESO 437-33 | 82    | ESO 467-37  | 76    | ESO 503-5   | 82          | ESO 534-2   | 76          | ESO 573-2   | 69          |
| ESO 270-17 | 92,93 | ESO 317-14 | 94,95    | ESO 328-35  | 92       | ESO 367-8   | 84          | ESO 387-26 | 80,92       | ESO 437-38 | D22   | ESO 467-43  | 76    | ESO 504-1   | 82          | ESO 534-10  | 76          | ESO 573-10  | 69          |
| ESO 271-10 | 92,93 | ESO 317-15 | 94,95    | ESO 328-37  | 92       | ESO 371-16  | 83          | ESO 394-30 | 78,79,90,91 | ESO 437-45 | 82    | ESO 467-54  | 76    | ESO 504-3   | 82          | ESO 534-24  | 64,76       | ESO 574-12  | 69          |
| ESO 271-17 | 92,93 | ESO 317-20 | 94,95    | ESO 328-50  | 92       | ESO 372-12  | 83,95       | ESO 396-7  | 78          | ESO 437-50 | 82    | ESO 468-27  | 76    | ESO 504-17  | 81,82       | ESO 534-31  | 64,76       | ESO 574-29  | 69,81       |
| ESO 271-26 | 92,93 | ESO 317-21 | 94,95    | ESO 329-7   | 80,92    | ESO 373-2   | 83,95       | ESO 396-9  | 78          | ESO 437-56 | 82    | ESO 471-45  | 76,87 | ESO 504-28  | 81,82       | ESO 535-1   | 76          | ESO 574-33  | 69,81       |
| ESO 273-2  | 92    | ESO 317-23 | 94       | ESO 329-12  | 80,91,92 | ESO 373-3   | 83,95       | ESO 396-17 | 78,90       | ESO 437-67 | 82    | ESO 472-4   | 76,87 | ESO 505-14  | 81,82       | ESO 535-14  | 76          | ESO 575-6   | 69          |
| ESO 273-4  | 92    | ESO 317-42 | 94       | ESO 330-4   | 91,92    | ESO 373-5   | 83,95       | ESO 397-4  | 78          | ESO 438-8  | 82    | ESO 472-20  | 87    | ESO 505-32  | 81          | ESO 535-15  | 64,76       | ESO 575-13  | 69,81       |
| ESO 274-1  | 92    | ESO 318-4  | 82,94    | ESO 336-3   | 90       | ESO 373-10  | 83,95       | ESO 397-6  | 78          | ESO 438-12 | 82    | ESO 473-18  | 87    | ESO 506-4   | 81          | ESO 535-17  | 64,76       | ESO 575-21  | 69,81       |
| ESO 274-6  | 92    | ESO 318-6  | 94       | ESO 336-4   | 90       | ESO 373-19  | 83          | ESO 397-15 | 78          | ESO 438-14 | 82    | ESO 474-7   | 87    | ESO 506-15  | 81          | ESO 536-2   | 64,76       | ESO 575-32  | 69,81       |
| ESO 281-4  | 90,91 | ESO 318-17 | 94       | ESO 336-6   | 78,90    | ESO 373-28  | 82,83       | ESO 397-17 | 78          | ESO 438-15 | 82    | ESO 474-27  | 87    | ESO 506-19  | 81          | ESO 539-5   | 75          | ESO 575-33  | 69,81       |
| ESO 281-5  | 90,91 | ESO 318-21 | 94       | ESO 336-8   | 90       | ESO 374-38  | 82,83       | ESO 398-12 | 78          | ESO 438-23 | 82    | ESO 475-15  | 87    | ESO 506-29  | 81          | ESO 540-1   | 75,87       | ESO 575-34  | 69,81       |
| ESO 281-8  | 90,91 | ESO 319-14 | 94       | ESO 336-9   | 90       | ESO 374-46  | 82,83,95    | ESO 398-22 | 77,78,89,90 | ESO 439-18 | 82    | ESO 475-16  | 75,87 | ESO 506-32  | 69,81       | ESO 540-3   | 75          | ESO 575-43  | 69,81       |
| ESO 281-9  | 90,91 | ESO 319-18 | 94       | ESO 336-10  | 90       | ESO 374-46A | 82,83,94,95 | ESO 399-10 | 77,78       | ESO 439-19 | 82    | ESO 476-4   | 87    | ESO 506-33  | 75          | ESO 540-23  | 75          | ESO 575-44  | 69,81       |
| ESO 281-11 | 90    | ESO 319-19 | 82,94    | ESO 336-14  | 90       | ESO 375-7   | 82,94,95    | ESO 399-18 | 77,78,89,90 | ESO 440-25 | 81,82 | ESO 476-8   | 75,87 | ESO 507-14  | 81          | ESO 541-1   | 75          | ESO 575-44A | 69,81       |
| ESO 281-14 | 90    | ESO 319-22 | 94       | ESO 336-17  | 90       | ESO 375-69  | 82,94       | ESO 399-23 | 77,78,89,90 | ESO 440-32 | 81,82 | ESO 476-18  | 87    | ESO 507-17  | 69,81       | ESO 541-8   | 75          | ESO 575-47  | 69          |
| ESO 281-15 | 90    | ESO 319-25 | 94       | ESO 336-21  | 90       | ESO 376-7   | 82,94       | ESO 400-4  | 77,78,89,90 | ESO 440-37 | 81,82 | ESO 477-8   | 86,87 | ESO 507-21  | 81          | ESO 541-15  | 75,87       | ESO 576-27  | 69          |
| ESO 281-18 | 90    | ESO 320-5  | 82,94    | ESO 337-1   | 90       |             |             |            |             |            |       |             |       |             |             |             |             |             |             |



|          |                |          |          |          |                |          |                |           |                |           |         |           |                |          |                |           |                |          |        |
|----------|----------------|----------|----------|----------|----------------|----------|----------------|-----------|----------------|-----------|---------|-----------|----------------|----------|----------------|-----------|----------------|----------|--------|
| IC 38    | 75             | IC 363   | 61       | IC 609   | 58             | IC 862   | 45             | IC 1134-1 | 44             | IC 1489   | 64      | IC 1770   | 50, 51         | IC 2163  | 72, 84         | IC 2544   | 34, 35         | IC 3253  | 81     |
| IC 41    | 75             | IC 364   | 61       | IC 616-1 | 46             | IC 863   | 69             | IC 1136   | 56             | IC 1491   | 64      | IC 1771   | 50, 51         | IC 2164  | 111, 112, 113  | IC 2550   | 34, 35         | IC 3255  | 03     |
| IC 43    | 39             | IC 366   | 61       | IC 621   | 58             | IC 868-1 | 45             | IC 1137   | 44, 56         | IC 1492   | 52      | IC 1772   | 50, 51, 62, 63 | IC 2166  | 13, 14         | IC 2551   | 34             | IC 3258  | 02     |
| IC 46    | 39             | IC 367   | 73       | IC 627   | 58             | IC 873   | 57             | IC 1141   | 44             | IC 1495   | 64      | IC 1776   | 50, 62         | IC 2173  | 36             | IC 2552   | 82, 83, 95     | IC 3263  | 33     |
| IC 48    | 63, 75         | IC 368   | 73       | IC 628   | 58             | IC 874   | 81             | IC 1143   | 1, 3, 4        | IC 1503   | 52      | IC 1779   | 62             | IC 2174  | 5, 6           | IC 2554A  | 104, 111       | IC 3267  | 03     |
| IC 50    | 75             | IC 369   | 73       | IC 630   | 58, 70         | IC 875   | 11             | IC 1144   | 19, 20         | IC 1505   | 52      | IC 1781   | 62             | IC 2179  | 6, 13          | IC 2560   | 82, 83         | IC 3268  | 03     |
| IC 51    | 75             | IC 375   | 73       | IC 632   | 58             | IC 879   | 81             | IC 1146   | 3, 4           | IC 1515   | 52      | IC 1783   | 86, 87         | IC 2184  | 5, 6           | IC 2565   | 34             | IC 3271  | 03     |
| IC 53    | 51             | IC 377   | 73       | IC 633   | 58             | IC 882   | 45             | IC 1149   | 43, 44         | IC 1516   | 52      | IC 1784   | 38             | IC 2187  | 36, 48         | IC 2566   | 22, 34         | IC 3284  | 02     |
| IC 65    | 27             | IC 381   | 6, 7     | IC 642   | 46             | IC 883   | 33             | IC 1151   | 43, 44         | IC 1517   | 52, 63  | IC 1786   | 62             | IC 2193  | 36             | IC 2569   | 34             | IC 3289  | 81     |
| IC 69    | 39             | IC 382   | 73       | IC 648-1 | 46             | IC 885   | 33, 45         | IC 1152   | 19, 20         | IC 1518   | 40, 51  | IC 1788   | 86             | IC 2196  | 36             | IC 2574   | 5, 12          | IC 3290  | 93     |
| IC 80A   | 75             | IC 385   | 61, 73   | IC 648-2 | 46             | IC 889   | 45             | IC 1153   | 19, 20         | IC 1520   | 64, 75  | IC 1791   | 50             | IC 2198  | 36, 48         | IC 2576   | 82             | IC 3296  | 33     |
| IC 81    | 63             | IC 387   | 61, 73   | IC 649-2 | 58             | IC 891   | 57             | IC 1154   | 3, 4           | IC 1525   | 16, 27  | IC 1796   | 98, 99         | IC 2199  | 36             | IC 2580   | 82             | IC 3303  | 02     |
| IC 82    | 75             | IC 389   | 61, 73   | IC 651   | 58             | IC 892   | 57             | IC 1156   | 43, 44         | IC 1526   | 40, 51  | IC 1801   | 50             | IC 2200  | 105            | IC 2582   | 82             | IC 3327  | 02     |
| IC 90    | 63, 75         | IC 391   | 6, 7     | IC 653   | 58             | IC 899   | 57, 69         | IC 1161   | 43, 44         | IC 1528   | 63, 75  | IC 1802   | 38, 50         | IC 2200A | 105            | IC 2584   | 021            | IC 3328  | 02, 03 |
| IC 93    | 75             | IC 392   | 61       | IC 656   | 46             | IC 900   | 45, 57         | IC 1163   | 43, 44         | IC 1529   | 75      | IC 1804-1 | 38, 50         | IC 2202  | 105, 111, 112  | IC 2586   | 82             | IC 3349  | 02     |
| IC 96    | 39             | IC 393   | 73       | IC 658   | 46, 58         | IC 905   | 33, 45         | IC 1167   | 43, 44         | IC 1531   | 76, 87  | IC 1804-2 | 38, 50         | IC 2203  | 36             | IC 2587   | 021            | IC 3358  | 02     |
| IC 107   | 51             | IC 396   | 6, 7, 14 | IC 664   | 46             | IC 908   | 57             | IC 1169   | 43, 44         | IC 1542   | 39, 51  | IC 1807   | 38, 50         | IC 2205  | 36             | IC 2588   | 82             | IC 3369  | 02     |
| IC 109   | 63             | IC 401   | 73       | IC 666   | 46             | IC 909   | 33             | IC 1174   | 43, 44         | IC 1543   | 39, 51  | IC 1810   | 98             | IC 2209  | 13             | IC 2589   | 82             | IC 3370  | 93     |
| IC 112   | 51             | IC 408   | 85       | IC 667   | 46             | IC 910   | 33, 45         | IC 1205   | 43             | IC 1549   | 51, 63  | IC 1811   | 86             | IC 2211  | 35, 36         | IC 2594   | 82             | IC 3376  | 93     |
| IC 115   | 51             | IC 409   | 61       | IC 669   | 46, 58         | IC 911   | 33, 45         | IC 1211   | 10, 19, 20     | IC 1553   | 87      | IC 1812   | 98             | IC 2212  | 35, 36         | IC 2597   | 022            | IC 3381  | 02     |
| IC 116   | 63             | IC 411   | 85       | IC 670   | 46, 58         | IC 912   | 33, 45         | IC 1212   | 3, 4, 10       | IC 1558   | 87      | IC 1813   | 86             | IC 2214  | 35, 36         | IC 2598   | 34             | IC 3391  | 45     |
| IC 119   | 016            | IC 413   | 61       | IC 671   | 58             | IC 915   | 69             | IC 1215   | 3, 4, 10       | IC 1559   | 39, 51  | IC 1815   | 38             | IC 2217  | 35, 36         | IC 2623   | 70             | IC 3392  | 02     |
| IC 121   | 63             | IC 414   | 61       | IC 676   | 46, 58         | IC 920   | 69             | IC 1220   | 43, 55         | IC 1562   | 87      | IC 1816   | 86, 98         | IC 2223  | 23, 24, 35, 36 | IC 2627   | 70, 82         | IC 3407  | 33     |
| IC 123   | 63             | IC 421   | 61       | IC 677   | 46             | IC 933   | 33, 45         | IC 1222   | 19             | IC 1565   | 51, 63  | IC 1818   | 74             | IC 2224  | 23, 24, 35, 36 | IC 2637   | 46             | IC 3410  | 45     |
| IC 141   | 75             | IC 422   | 73       | IC 678   | 46, 58         | IC 939   | 57             | IC 1226   | 19             | IC 1567   | 51, 63  | IC 1821-1 | 50             | IC 2225  | 23, 24, 35, 36 | IC 2648   | 46             | IC 3413  | 02     |
| IC 159   | 63, 75         | IC 433   | 73       | IC 680   | 58             | IC 943   | 57             | IC 1231   | 10             | IC 1569   | 51, 63  | IC 1826   | 86             | IC 2226  | 47             | IC 2649-2 | 46             | IC 3414  | 03     |
| IC 161   | 51             | IC 438   | 72, 73   | IC 683   | 58             | IC 946   | 45             | IC 1235   | 10             | IC 1575A  | 63      | IC 1833   | 86             | IC 2227  | 23, 24, 35, 36 | IC 2666   | 46             | IC 3425  | 02, 03 |
| IC 163   | 39, 51         | IC 440   | 5, 6     | IC 691   | 11, 12         | IC 947   | 57             | IC 1236   | 43             | IC 1575B  | 63      | IC 1835-1 | 50             | IC 2230  | 35             | IC 2681   | 46             | IC 3436  | 45     |
| IC 164   | 63             | IC 442   | 1, 6     | IC 692   | 46             | IC 948   | 45             | IC 1241   | 9, 10          | IC 1586   | 39, 51  | IC 1843   | 62             | IC 2231  | 59             | IC 2694-1 | 46             | IC 3442  | 02     |
| IC 167   | 39, 51         | IC 445   | 6, 13    | IC 696   | 46, 58         | IC 951   | 11, 20, 21     | IC 1242   | 55             | IC 1601   | 87      | IC 1845   | 86             | IC 2233  | 23, 24         | IC 2694-2 | 46             | IC 3457  | 02     |
| IC 169   | 50, 51         | IC 449   | 5, 6     | IC 697   | 58             | IC 954   | 4, 5           | IC 1244   | 19, 31         | IC 1605   | 99      | IC 1847   | 50             | IC 2239  | 35, 47         | IC 2698   | 46             | IC 3461  | 02     |
| IC 170   | 63, 75         | IC 450   | 5, 6     | IC 698   | 46, 58         | IC 956-1 | 32, 33, 44, 45 | IC 1248   | 10             | IC 1607   | 63      | IC 1854   | 50             | IC 2253  | 35, 47         | IC 2708   | 46             | IC 3468  | 02, 03 |
| IC 171   | 26, 27, 38, 39 | IC 454   | 48       | IC 700   | 46             | IC 959   | 44, 45         | IC 1249   | 31             | IC 1608   | 87      | IC 1856   | 62             | IC 2254  | 35             | IC 2744   | 34             | IC 3470  | 02     |
| IC 172   | 63             | IC 455   | 1        | IC 701   | 46             | IC 962   | 44, 45         | IC 1255   | 43             | IC 1609   | 99      | IC 1858   | 86             | IC 2268  | 35             | IC 2753   | 46             | IC 3475  | 02     |
| IC 174   | 62, 63         | IC 456   | 84       | IC 707   | 34, 46         | IC 964   | 44, 45         | IC 1258   | 9, 10          | IC 1610   | 75      | IC 1859   | 86             | IC 2271  | 35             | IC 2757   | 46, 58         | IC 3476  | 02     |
| IC 175   | 62, 63         | IC 458   | 015      | IC 708   | 21, 22         | IC 966   | 56, 57         | IC 1259-1 | 10             | IC 1613   | 63      | IC 1860   | 86             | IC 2282  | 35             | IC 2759   | 34, 46         | IC 3478  | 02     |
| IC 177   | 62, 63         | IC 459   | 015      | IC 709   | 21, 22         | IC 967   | 44, 45         | IC 1259-2 | 10             | IC 1615   | 99, 107 | IC 1861   | 38             | IC 2290  | 47             | IC 2764   | 82             | IC 3481  | 02     |
| IC 178   | 26, 27, 38, 39 | IC 460   | 015      | IC 711   | 21, 22         | IC 968-1 | 56, 57         | IC 1260   | 9, 10          | IC 1616   | 87      | IC 1863   | 50, 62         | IC 2311  | 83             | IC 2769   | 46             | IC 3481A | 02     |
| IC 179   | 26, 27, 38, 39 | IC 464   | 015      | IC 712   | 21, 22         | IC 971   | 68, 69         | IC 1265   | 18, 19         | IC 1620   | 51      | IC 1864   | 86             | IC 2327  | 59             | IC 2826   | 46             | IC 3489  | 02     |
| IC 182   | 50, 51, 62, 63 | IC 467   | 5, 6     | IC 719   | 46, 58         | IC 975   | 44             | IC 1267   | 9, 10          | IC 1622   | 75      | IC 1870   | 62             | IC 2338  | 35, 47         | IC 2828   | 46, 58         | IC 3492  | 02     |
| IC 186-2 | 62, 63         | IC 469   | 1        | IC 723   | 58, 70         | IC 976   | 56             | IC 1269   | 30, 31, 42, 43 | IC 1623-1 | 75      | IC 1874   | 26, 38         | IC 2340  | 47             | IC 2829   | 46             | IC 3499  | 02     |
| IC 187-1 | 38, 39         | IC 471   | 23, 24   | IC 724   | 46, 58         | IC 979   | 44             | IC 1288   | 18             | IC 1625   | 99      | IC 1875   | 98             | IC 2363  | 47             | IC 2830   | 46, 58         | IC 3501  | 02     |
| IC 187-2 | 38, 39         | IC 486   | 35, 36   | IC 725   | 58             | IC 980   | 56, 68         | IC 1291   | 18, 19         | IC 1628   | 87      | IC 1876   | 86             | IC 2365  | 35             | IC 2843   | 46             | IC 3509  | 02     |
| IC 189   | 38, 39, 50, 51 | IC 493   | 35, 36   | IC 732-1 | 023            | IC 981   | 56             | IC 1301   | 17, 18         | IC 1629   | 63      | IC 1880   | 74             | IC 2367  | 71             | IC 2853   | 46, 58         | IC 3510  | 02     |
| IC 192   | 50, 51         | IC 494   | 59       | IC 738   | 58             | IC 982   | 44             | IC 1302   | 18, 30         | IC 1631   | 99      | IC 1892   | 74, 86         | IC 2375  | 71             | IC 2856   | 70             | IC 3521  | 03     |
| IC 195   | 50, 51         | IC 495   | 47, 59   | IC 741   | 58             | IC 983   | 44             | IC 1317   | 53             | IC 1633   | 99      | IC 1895   | 86             | IC 2377  | 71             | IC 2858   | 46             | IC 3528  | 02     |
| IC 197   | 62             | IC 498   | 59       | IC 745   | 58             | IC 985   | 56             | IC 1319   | 65             | IC 1634   | 51      | IC 1897   | 74             | IC 2378  | 35             | IC 2867   | 46, 58         | IC 3540  | 02     |
| IC 200   | 38, 39         | IC 500   | 71       | IC 746   | 81             | IC 986   | 56             | IC 1320   | 53             | IC 1635   | 51      | IC 1899   | 86             | IC 2379  | 71             | IC 2913   | 82             | IC 3574  | 02     |
| IC 204   | 62             | IC 501-1 | 35       | IC 748   | 45, 46, 57, 58 | IC 988   | 56             | IC 1327   | 53             | IC 1636   | 39      | IC 1900   | 26, 38         | IC 2380  | 35             | IC 2928   | 34             | IC 3585  | 33     |
| IC 205   | 62             | IC 501-2 | 35       | IC 749   | 21, 22         | IC 989   | 56             | IC 1332   | 65             | IC 1637   | 87      | IC 1902   | 26, 38         | IC 2382  | 35, 47         | IC 2936   | 46             | IC 3586  | 02     |
| IC 208   | 50, 62         | IC 502   | 47, 59   | IC 750   | 21, 22         | IC 991   | 68             | IC 1337   | 65             | IC 1638   | 39      | IC 1918   | 62             | IC 2383  | 35             | IC 2938-1 | 46             | IC 3591  | 03     |
| IC 209   | 62, 74         | IC 503   | 59       | IC 752   | 21, 22         | IC 994   | 44             | IC 1339   | 65             | IC 1639   | 63      | IC 1919   | 86             | IC 2389  | 5, 6           | IC 2941   | 46             | IC 3609  | 02     |
| IC 214   | 62             | IC 504   | 59       | IC 753   | 57, 58         | IC 997-1 | 56             | IC 1341   | 65             | IC 1640   | 63      | IC 1925   | 97, 98, 106    | IC 2392  | 47             | IC 2943   | 11, 12         | IC 3611  | 02     |
| IC 216   | 62             | IC 506   | 59       | IC 754   | 57, 58         | IC 997-2 | 56             | IC 1342   | 65             | IC 1646   | 51      | IC 1933   | 98, 106        | IC 2393  | 35             | IC 2945   | 46             | IC 3618  | 33     |
| IC 219   | 62, 74         | IC 508   | 35       | IC 760   | 81, 82         | IC 999   | 44             | IC 1345   | 65             | IC 1648   | 39      | IC 1935   | 97, 98, 106    | IC 2404  | 35             | IC 2946   | 34             | IC 3625  | 02     |
| IC 221   | 38             | IC 509   | 35, 47   | IC 767   | 45             | IC 1000  | 44             | IC 1355   | 65             | IC 1650   | 99, 107 | IC 1940   | 98, 106        | IC 2406  | 47             | IC 2947   | 34             | IC 3625A | 02     |
| IC 223   | 74, 86         | IC 512   | 1        | IC 769   | 02             | IC 1007  | 56             | IC 1362   | 53             | IC 1654   | 39      | IC 1947   | 97, 98, 106    | IC 2409  | 47             | IC 2950   | 21, 22, 33, 34 | IC 3631  | 02     |
| IC 224   | 74             | IC 513   | 71       | IC 771   | 02             | IC 1008A | 32             | IC 1364   | 53             | IC 1657   | 87      | IC 1949   | 97, 98         | IC 2414  | 47             | IC 2961   | 33, 34         | IC 3633  | 02, 03 |
| IC 225   | 62             | IC 514   | 59       | IC 773   | 03             | IC 1011  | 56             | IC 1365   | 53             | IC 1659   | 39      | IC 1952   | 74, 86         | IC 2420  | 59             | IC 2967   | 33, 34         | IC 3639  | 81, 93 |
| IC 231   | 62             | IC 517   | 59       | IC 775   | 02             | IC 1014  | 44             | IC 1367   | 53             | IC 1666   | 39      | IC 1953   | 74, 86         | IC 2422  | 47             | IC 2969   | 58             | IC 3642  | 33     |
| IC 232   | 62             | IC 519   | 59       | IC 777   | 33             | IC 1019  | 32             | IC 1368   | 53             | IC 1667   | 75      | IC 1954   | 97, 98, 106    | IC 2423  | 47             | IC 2977   | 81, 82, 93, 94 | IC 3651  | 33     |
| IC 233   | 62             | IC 520   | 5, 6     | IC 780   | 33             | IC 1024  | 56             | IC 1371   | 53             | IC 1672   | 39      | IC 1959   | 97, 98, 106    | IC 2429  | 35             | IC 2979   | 33, 34         | IC 3652  | 02     |
| IC 235   | 50             | IC 522   | 12, 13   | IC 781   | 02             | IC 1029  | 20             | IC 1373   | 53             |           |         |           |                |          |                |           |                |          |        |



|           |         |           |               |          |               |           |               |            |               |             |                |             |                |             |                |              |        |             |                |
|-----------|---------|-----------|---------------|----------|---------------|-----------|---------------|------------|---------------|-------------|----------------|-------------|----------------|-------------|----------------|--------------|--------|-------------|----------------|
| IC 3959   | D24     | IC 4429   | 44            | IC 4751  | 101, 102      | IC 5009   | 108, 109      | IC 5277    | 100, 108      | M 87        | 45, D2         | MC6-6-31-4  | D17            | MC6-3-13-63 | 73             | MC6-2-12-21  | 73     | MC6-2-52-19 | 65             |
| IC 3960   | D24     | IC 4430   | 80            | IC 4753  | 101, 102      | IC 5011   | 77, 89        | IC 5279    | 108, 113      | M 88        | 45, D2         | MC6-6-31-16 | D17            | MC6-3-14-11 | 73             | MC6-2-12-23  | 73     | MC6-2-53-3  | 65             |
| IC 3973   | D24     | IC 4435   | 20, 32        | IC 4754  | 101, 102      | IC 5013   | 77, 89        | IC 5283    | 40            | M 89        | 45, D2         | MC6-6-31-20 | D17            | MC6-3-15-6  | 73             | MC6-2-12-26  | 73     | MC6-2-53-8  | 65             |
| IC 3986   | 81      | IC 4436   | 32            | IC 4757  | 101           | IC 5014   | 108, 109      | IC 5285    | 28, 40        | M 90        | 45, D2         | MC6-6-31-26 | 80, 81, 92, 93 | MC6-3-16-1  | 72, 73         | MC6-2-12-30  | 73     | MC6-2-53-17 | 65             |
| IC 3987   | 21, 33  | IC 4444   | 92            | IC 4758  | 101, 109      | IC 5020   | 77            | IC 5288    | 100, 108, 113 | M 91        | 45, D2         | MC6-6-31-29 | 80, 81, 93     | MC6-3-16-4  | 72, 73         | MC6-2-12-45  | 73     | MC6-2-53-23 | 65             |
| IC 3993   | 21      | IC 4447   | 32            | IC 4760  | 101, 102      | IC 5021   | 101           | IC 5289    | 76            | M 94        | 21             | MC6-6-33-5  | 80, 92         | MC6-3-16-7  | 72, 73, 84, 85 | MC6-2-12-47  | 73     | MC6-2-56-1  | 64, 65         |
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| IC 4026   | D24     | IC 4451   | 80, 92        | IC 4763  | 3, 9          | IC 5027   | 100, 101      | IC 5297    | 28            | M 96        | 46             | MC6-6-43-4  | 77, 78, 89, 90 | MC6-3-16-18 | 72             | MC6-2-12-52  | 61, 73 | MC6-2-57-2  | 64             |
| IC 4032   | 33      | IC 4452   | 32            | IC 4765  | 101, 102      | IC 5031   | 101, 108, 109 | IC 5298    | 28            | M 98        | 45, D2         | MC6-6-43-8  | 78, 89, 90     | MC6-3-17-5  | 72             | MC6-2-12-54  | 61, 73 | MC6-2-57-8  | 52, 64         |
| IC 4034   | 21, 33  | IC 4453   | 80            | IC 4766  | 101, 102      | IC 5032   | 101, 108, 109 | IC 5304    | 64            | M 99        | 45, D2         | MC6-6-43-9  | 77, 78, 89, 90 | MC6-3-23-9  | 71             | MC6-2-13-6   | 73     | MC6-2-58-23 | 64             |
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| IC 4042   | D24     | IC 4464   | 80, 92        | IC 4774  | 77            | IC 5039   | 77            | IC 5312    | 40            | M 101       | 11             | MC6-6-43-11 | 77, 78         | MC6-3-25-16 | 71             | MC6-2-13-10  | 73     | MC6-2-59-20 | 52, 64         |
| IC 4045   | D24     | IC 4475   | 32, 44        | IC 4777  | 90, 101       | IC 5041   | 77            | IC 5315    | 28            | M 102       | 10, 11         | MC6-6-44-4  | 89, 90         | MC6-3-25-25 | 71             | MC6-2-13-12  | 73     | MC6-2-60-16 | 52, 64         |
| IC 4051   | D24     | IC 4476   | 68            | IC 4778  | 101, 102      | IC 5042   | 100, 101, 108 | IC 5320    | 100, 108, 113 | M 104       | 69             | MC6-6-44-6  | 77, 78, 89, 90 | MC6-3-26-6  | 70, 71         | MC6-2-13-32  | 73     | MC6-1-1-8   | 52, 63         |
| IC 4062   | 21      | IC 4478   | 44            | IC 4780  | 101           | IC 5049-1 | 77, 89        | IC 5321    | 64            | M 105       | 46             | MC6-6-44-12 | 77, 78         | MC6-3-26-30 | 70             | MC6-2-13-40A | 73     | MC6-1-1-11  | 52, 63         |
| IC 4070   | 45      | IC 4480   | 44            | IC 4783  | 101           | IC 5049-2 | 77, 89        | IC 5322    | 100, 108, 113 | M 106       | 21, 22         | MC6-6-45-10 | 77             | MC6-3-27-10 | 70             | MC6-2-22-1   | 71     | MC6-1-1-18  | 52, 63, 64, 75 |
| IC 4071   | 57, 69  | IC 4486   | 44            | IC 4784  | 101, 102      | IC 5050   | 53, 65        | IC 5323    | 100, 108, 113 | M 108       | 12             | MC6-6-46-4  | 77             | MC6-3-27-14 | 70             | MC6-2-22-3   | 71     | MC6-1-1-27  | 52, 63, 64, 75 |
| IC 4115   | 21, 33  | IC 4492   | 20, 32        | IC 4785  | 101           | IC 5052   | 108, 109      | IC 5324    | 100, 108, 113 | M 109       | 11, 12, 21, 22 | MC6-6-46-6  | 77             | MC6-3-27-17 | 70             | MC6-2-22-7   | 71     | MC6-1-1-30  | 63, 75         |
| IC 4122   | 45      | IC 4494   | 44            | IC 4789  | 101, 108, 109 | IC 5053   | 108, 109      | IC 5325    | 88            | M 110       | 27             | MC6-6-47-10 | 77, 89         | MC6-3-28-17 | 70             | MC6-2-22-8   | 71     | MC6-1-1-41  | 63, 75         |
| IC 4133   | 33      | IC 4497   | 32            | IC 4790  | 101, 109      | IC 5054   | 108, 109      | IC 5328    | 88, 99        | M 11        | 14, 15         | MC6-6-47-13 | 76, 77, 88, 89 | MC6-3-28-24 | 70             | MC6-2-22-13  | 71     | MC6-1-1-44  | 63, 75         |
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| IC 4187   | 21, 33  | IC 4506   | 32            | IC 4800  | 101, 102      | IC 5069   | 108, 109      | IC 5345    | 64, 76        | MC6-7-10-9  | 97, 98         | MC6-6-50-4  | 76, 88         | MC6-3-32-16 | 69             | MC6-2-24-5   | 71     | MC6-1-3-10  | 63, 75         |
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| IC 4197   | 69, 81  | IC 4516   | 44            | IC 4806  | 101           | IC 5074   | 100, 101      | IC 5347    | 28            | MC6-7-24-5  | 93, 94         | MC6-6-50-11 | 76             | MC6-3-33-23 | 69             | MC6-2-24-9   | 71     | MC6-1-3-27  | 63             |
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| IC 4220   | 69      | IC 4533   | 32            | IC 4815  | 101           | IC 5083   | 41            | IC 5354-1  | 76            | MC6-7-26-57 | D19            | MC6-6-51-4  | 76, 88         | MC6-3-34-44 | 69             | MC6-2-25-2   | 71     | MC6-1-3-85  | 63, 75         |
| IC 4221   | 69      | IC 4537   | 56            | IC 4819  | 101           | IC 5084   | 100, 101      | IC 5355    | 28, 39        | MC6-7-27-50 | 93             | MC6-6-51-7  | 76             | MC6-3-34-48 | 69             | MC6-2-25-3   | 71     | MC6-1-4-9   | 63, 75         |
| IC 4226   | 33      | IC 4538   | 68, 80        | IC 4821  | 101           | IC 5086   | 77            | IC 5356    | 52            | MC6-7-27-51 | 93             | MC6-6-51-9  | 76             | MC6-3-34-51 | 69             | MC6-2-25-6   | 71     | MC6-1-4-16  | 63, 75         |
| IC 4229   | 57      | IC 4555   | 109, 110      | IC 4827  | 101           | IC 5088   | 65, 77        | IC 5357    | 52            | MC6-7-31-9  | 92             | MC6-6-51-15 | 76, 88         | MC6-3-34-55 | 69             | MC6-2-25-11  | 71     | MC6-1-4-40  | 63             |
| IC 4234   | 33      | IC 4556   | 32            | IC 4830  | 101           | IC 5090   | 53            | IC 5358-1  | 76            | MC6-7-40-5  | 89, 90         | MC6-6-52-4  | 76, 87, 88, 99 | MC6-3-34-57 | 69             | MC6-2-25-17  | 71     | MC6-1-4-51  | 63, 75         |
| IC 4237   | 69, 81  | IC 4558   | 32            | IC 4831  | 101           | IC 5092   | 100, 101      | IC 5362    | 76, 87        | MC6-7-40-6  | 89, 90         | MC6-6-52-5  | 76, 87, 88, 99 | MC6-3-34-60 | 69             | MC6-2-25-23  | 71     | MC6-1-4-58  | 63             |
| IC 4241   | 33      | IC 4559   | 32            | IC 4832  | 101           | IC 5094   | 100, 101, 108 | IC 5364-1  | 76, 87        | MC6-7-40-8  | 89, 90         | MC6-5-1-16  | 76, 87         | MC6-3-34-72 | 69, 81         | MC6-2-25-24  | 71     | MC6-1-5-29  | 63             |
| IC 4243   | 81      | IC 4561   | 32            | IC 4833  | 101           | IC 5096   | 100, 101      | IC 5370    | 28, 39        | MC6-7-41-1  | 89, 90         | MC6-5-6-2   | 86, 87         | MC6-3-34-81 | 69, 81         | MC6-2-25-25  | 71     | MC6-1-5-31  | 63             |
| IC 4244   | 33      | IC 4562   | 19, 20        | IC 4835  | 101           | IC 5101   | 100, 101, 108 | IC 5372    | 28, 39        | MC6-7-41-5  | 89, 90         | MC6-5-7-6   | 86             | MC6-3-34-82 | 69             | MC6-2-26-3   | 70, 71 | MC6-1-6-12  | 62, 63, 74, 75 |
| IC 4248   | 81      | IC 4562A  | 19, 20        | IC 4836  | 101           | IC 5102   | 108, 109, 113 | IC 5378-1  | 40, 51        | MC6-7-41-22 | 89, 90         | MC6-5-11-13 | 85             | MC6-3-35-5  | 69             | MC6-2-26-8   | 70, 71 | MC6-1-6-18  | 62, 63, 74, 75 |
| IC 4250-1 | 33      | IC 4566   | 19, 20        | IC 4837  | 101           | IC 5105   | 89            | IC 5378-2  | 40, 51        | MC6-7-41-27 | 89, 90         | MC6-5-11-15 | 85             | MC6-3-35-7  | 69             | MC6-2-26-10  | 70, 71 | MC6-1-6-22  | 62, 63, 74, 75 |
| IC 4251   | 81      | IC 4567   | 19, 20        | IC 4837A | 101           | IC 5105A  | 89            | IC 5378-3  | 40, 51        | MC6-7-42-14 | 89             | MC6-5-14-19 | 84, 85         | MC6-3-35-9  | 69             | MC6-2-26-14  | 70, 71 | MC6-1-7-6   | 62, 74         |
| IC 4252   | 81      | IC 4571   | 102, 109, 110 | IC 4838  | 101           | IC 5105B  | 89            | IC 5378-4  | 40, 51        | MC6-7-42-17 | 89             | MC6-5-14-20 | 84, 85         | MC6-3-35-19 | 69             | MC6-2-26-27  | 70, 71 | MC6-1-7-16  | 62             |
| IC 4255   | 81      | IC 4576   | 32, 44        | IC 4839  | 101           | IC 5106   | 108, 109      | IC 5378-5  | 40, 51        | MC6-7-42-18 | 89             | MC6-5-22-6  | 83             | MC6-3-35-19 | 69             | MC6-2-26-29  | 70, 71 | MC6-1-7-22  | 62, 74         |
| IC 4258   | 33      | IC 4578   | 109, 110      | IC 4840  | 101           | IC 5109   | 108, 109, 113 | IC 5378-6  | 40, 51        | MC6-7-44-13 | 89             | MC6-5-28-13 | 81, 82         | MC6-3-38-10 | 68, 80         | MC6-2-26-31  | 70     | MC6-1-7-29  | 62             |
| IC 4261   | 81      | IC 4584   | 102, 110      | IC 4842  | 101           | IC 5110   | 100, 101      | IC 5378-7  | 40, 51        | MC6-7-46-5  | 88             | MC6-5-29-4  | 81, 82         | MC6-3-38-11 | 66             | MC6-2-26-40  | 70     | MC6-1-8-25  | 62             |
| IC 4270   | 81      | IC 4585   | 102, 109, 110 | IC 4844  | 101           | IC 5116   | 108, 109      | IC 5378-8  | 40, 51        | MC6-7-47-17 | 88             | MC6-5-29-11 | 81, 82         | MC6-3-38-12 | 66             | MC6-2-26-40  | 70     | MC6-1-9-15  | 62             |
| IC 4271-1 | 21, 33  | IC 4587   | 31, 32        | IC 4845  | 101           | IC 5125   | 89, 100       | IC 5378-9  | 40, 51        | MC6-7-47-31 | 88             | MC6-5-32-74 | 81             | MC6-3-38-13 | 65             | MC6-2-26-40  | 70     | MC6-1-9-22  | 62             |
| IC 4271-2 | 21, 33  | IC 4590   | 31, 32        | IC 4847  | 101, 108, 109 | IC 5128   | 88, 89        | IC 5378-10 | 40, 51        | MC6-7-47-32 | 88             | MC6-5-45-5  | 78             | MC6-3-38-14 | 64             | MC6-2-26-40  | 70     | MC6-1-9-24  | 62, 74         |
| IC 4275   | 81      | IC 4595   | 109, 110      | IC 4848  | 101           | IC 5131   | 76, 77, 88    | IC 5378-11 | 40, 51        | MC6-7-48-19 | 76, 88, 99     | MC6-5-46-4  | 78             | MC6-3-38-15 | 64             | MC6-2-26-45  | 70     | MC6-1-9-27  | 62, 74         |
| IC 4280   | 81      | IC 4597   | 79            | IC 4849  | 101           | IC 5138   | 108           | IC 5378-12 | 40, 51        | MC6-6-1-1   | 76, 87, 99     | MC6-5-47-3  | 77, 78         | MC6-3-38-16 | 64             | MC6-2-26-45  | 70     | MC6-1-9-31  | 62, 74         |
| IC 4289   | 81      | IC 4608   | 109, 110      | IC 4852  | 101           | IC 5139   | 76, 77        | IC 5378-13 | 40, 51        | MC6-6-1-2   | 76, 87         | MC6-5-51-15 | 76, 77         | MC6-3-38-17 | 64             | MC6-2-26-45  | 70     | MC6-1-9-39  | 62, 74         |
| IC 4292   | 81      | IC 4612   | 19, 31        | IC 4854  | 101           | IC 5141   | 100           | IC 5378-14 | 40, 51        | MC6-6-1-5   | 76, 87         | MC6-5-52-35 | 76, 77         | MC6-3-38-18 | 64             | MC6-2-26-45  | 70     | MC6-1-9-43  | 62             |
| IC 4293   | 81      | IC 4617   | 19, 31        | IC 4857  | 101           | IC 5149   | 76, 77        | IC 5378-15 | 40, 51        | MC6-6-1-28  | 76, 87, 8      |             |                |             |                |              |        |             |                |



|             |        |              |                |              |            |             |                |               |            |         |          |           |               |           |         |         |                |         |                |
|-------------|--------|--------------|----------------|--------------|------------|-------------|----------------|---------------|------------|---------|----------|-----------|---------------|-----------|---------|---------|----------------|---------|----------------|
| MCG-1-29-17 | 58     | MCG+0-37-9   | 56             | MCG+2-52-25  | 41         | MCG+5-33-28 | 32, 33         | MCG+8-14-34   | 23, 24     | NGC 64  | 63, 75   | NGC 236   | 63            | NGC 437   | 51, 63  | NGC 591 | 27, 39         | NGC 755 | 74, 75         |
| MCG-1-29-18 | 58     | MCG+0-37-13  | 56             | MCG+2-54-12  | 41         | MCG+5-34-23 | 32             | MCG+8-15-8    | 23, 24     | NGC 65  | 75, 87   | NGC 237   | 63            | NGC 438   | 87, 99  | NGC 594 | 75             | NGC 759 | 26, 27, 38, 39 |
| MCG-1-29-19 | 70     | MCG+0-37-17  | 56             | MCG+2-56-6   | 40, 41     | MCG+5-37-17 | 32             | MCG+8-20-28   | 22         | NGC 66  | 75, 87   | NGC 238   | 99, 107       | NGC 439   | 87      | NGC 596 | 63, 75         | NGC 762 | 62, 63, 74, 75 |
| MCG-1-30-11 | 58, 70 | MCG+0-39-4   | 56             | MCG+2-56-26  | 40         | MCG+5-38-19 | 31, 32         | MCG+8-20-40   | 22         | NGC 68  | 39       | NGC 240   | 51, 63        | NGC 440   | 107     | NGC 597 | 87             | NGC 766 | 50, 51, 62, 63 |
| MCG-1-30-12 | 70     | MCG+0-42-5   | 55             | MCG+2-60-17  | 40         | MCG+5-40-2  | 31             | MCG+8-20-83   | 22         | NGC 70  | 39       | NGC 243   | 39            | NGC 441   | 87      | NGC 599 | 75             | NGC 768 | 62, 63         |
| MCG-1-30-25 | 58, 70 | MCG+0-43-3   | 55             | MCG+3-1-5    | 40, 51     | MCG+5-40-38 | 31             | MCG+8-21-16   | 22         | NGC 71  | 39       | NGC 244   | 75            | NGC 442   | 63      | NGC 600 | 63, 75         | NGC 769 | 38, 39         |
| MCG-1-30-33 | 58     | MCG+0-52-16  | 53             | MCG+3-8-8    | 50, 51     | MCG+5-43-16 | 30             | MCG+8-22-21   | 21, 22     | NGC 72  | 39       | NGC 245   | 63            | NGC 443   | 39      | NGC 605 | 26, 27         | NGC 770 | 50, 51         |
| MCG-1-30-41 | 58, 70 | MCG+0-52-40  | 53             | MCG+3-20-11  | 48         | MCG+5-44-2  | 30             | MCG+8-23-26   | 21, 22     | NGC 72A | 39       | NGC 247   | 75, 87        | NGC 445   | 63      | NGC 606 | 39, 51         | NGC 772 | 50, 51         |
| MCG-1-31-1  | 57, 58 | MCG+0-55-14  | 53             | MCG+3-21-2   | 47, 48     | MCG+5-54-3  | 28             | MCG+8-23-32   | 21, 22     | NGC 75  | 51, 63   | NGC 252   | 39            | NGC 446   | 63      | NGC 612 | 87, 99         | NGC 773 | 74, 75         |
| MCG-1-31-3  | 57     | MCG+0-58-22  | 52             | MCG+3-23-13  | 47         | MCG+5-54-41 | 28             | MCG+8-23-40   | 21, 22     | NGC 76  | 39       | NGC 253   | 87            | NGC 448   | 63      | NGC 613 | 87             | NGC 774 | 50, 51         |
| MCG-1-31-4  | 57     | MCG+0-59-18  | 52             | MCG+3-23-22  | 47         | MCG+5-55-10 | 28             | MCG+8-23-52   | 21, 22     | NGC 77  | 75, 87   | NGC 254   | 87            | NGC 450   | 63      | NGC 614 | 39             | NGC 775 | 86, 87         |
| MCG-1-32-7  | 57, 69 | MCG+0-60-32  | 52             | MCG+3-24-2   | 47         | MCG+6-1-12  | 16, 27, 28, 39 | MCG+8-24-86   | 21         | NGC 78  | 63       | NGC 255   | 75            | NGC 451   | 39      | NGC 615 | 63, 75         | NGC 776 | 38, 39, 50, 51 |
| MCG-1-32-17 | 57, 69 | MCG+1-2-18   | 51, 63         | MCG+3-24-24  | 47         | MCG+6-1-26  | 39             | MCG+8-27-18   | 20         | NGC 78A | 63       | NGC 257   | 51, 63        | NGC 454-1 | 107     | NGC 617 | 75             | NGC 777 | 38, 39         |
| MCG-1-32-18 | 57, 69 | MCG+1-6-13   | 62, 63         | MCG+3-25-7   | 47         | MCG+6-1-30  | 16, 27, 39     | MCG+8-27-60   | 11, 20     | NGC 79  | 39, 51   | NGC 258   | 39            | NGC 454-2 | 107     | NGC 620 | 26, 27         | NGC 778 | 38, 39         |
| MCG-1-32-26 | 57     | MCG+1-8-27   | 50, 62         | MCG+3-27-2   | 46         | MCG+6-4-9   | 27, 39         | MCG+8-27-62   | 10, 11, 20 | NGC 80  | 39, 51   | NGC 260   | 39            | NGC 455   | 63      | NGC 621 | 27, 39         | NGC 779 | 62, 63, 74, 75 |
| MCG-1-32-33 | 57     | MCG+1-11-1   | 49, 50, 61, 62 | MCG+3-28-2   | 46         | MCG+6-4-55  | 39             | MCG+8-30-16   | 19, 20     | NGC 83  | 39, 51   | NGC 262   | 39            | NGC 461   | 87      | NGC 622 | 63             | NGC 781 | 50, 51         |
| MCG-1-32-35 | 69     | MCG+1-14-7   | 49, 61         | MCG+3-28-26  | 46         | MCG+6-5-5   | 26, 38, 39     | MCG+8-30-24   | 19, 20     | NGC 85A | 39, 51   | NGC 264   | 87, 99        | NGC 462   | 87, 99  | NGC 623 | 87, 99         | NGC 782 | 107            |
| MCG-1-33-6  | 69     | MCG+1-21-5   | 47, 48, 59, 60 | MCG+3-28-29  | 46         | MCG+6-5-73  | 26, 27, 38, 39 | MCG+8-30-28   | 19, 20     | NGC 88  | 88, 99   | NGC 266   | 39            | NGC 466   | 107     | NGC 624 | 75             | NGC 783 | 38, 39         |
| MCG-1-33-7  | 57, 69 | MCG+1-21-14  | 59             | MCG+3-30-7   | 46         | MCG+6-16-1  | 36             | MCG+8-31-4    | 19         | NGC 89  | 88, 99   | NGC 268   | 63            | NGC 467   | 63      | NGC 625 | 98, 99         | NGC 784 | 38, 39         |
| MCG-1-33-31 | 69     | MCG+1-22-15  | 47, 59         | MCG+3-30-14  | 46         | MCG+6-16-4  | 36             | MCG+8-31-19   | 19         | NGC 90  | 39, 51   | NGC 270   | 63, 75        | NGC 470   | 63      | NGC 626 | 99             | NGC 785 | 38, 39         |
| MCG-1-33-34 | 69     | MCG+1-24-8   | 47, 59         | MCG+3-30-33  | 46         | MCG+6-16-12 | 36             | MCG+8-36-3    | 17, 18     | NGC 92  | 88, 99   | NGC 271   | 63            | NGC 471   | 51      | NGC 630 | 99             | NGC 786 | 50, 51         |
| MCG-1-33-48 | 57, 69 | MCG+1-24-11  | 47, 59         | MCG+3-30-38  | 46         | MCG+6-18-2  | 35, 36         | MCG+9-12-4    | 13         | NGC 93  | 39, 51   | NGC 273   | 63, 75        | NGC 472   | 39      | NGC 632 | 51, 63         | NGC 788 | 62, 63, 74, 75 |
| MCG-1-33-59 | 57     | MCG+1-24-15  | 59             | MCG+3-30-51  | D23        | MCG+6-19-20 | 35             | MCG+9-13-1    | 13, 24     | NGC 95  | 51       | NGC 274   | 63, 75        | NGC 473   | 51      | NGC 633 | 87, 99         | NGC 789 | 38, 39         |
| MCG-1-34-8  | 57, 69 | MCG+1-24-23  | 59             | MCG+3-30-98  | D23        | MCG+6-21-51 | 35             | MCG+9-13-99   | 13         | NGC 97  | 51       | NGC 275   | 63, 75        | NGC 474   | 63      | NGC 634 | 39             | NGC 790 | 62, 63, 74, 75 |
| MCG-1-34-17 | 57, 69 | MCG+1-25-26  | 59             | MCG+3-31-25  | 45, 46     | MCG+6-22-9  | 22, 34, 35     | MCG+9-14-31   | 13         | NGC 98  | 88, 99   | NGC 278   | 27            | NGC 476   | 51      | NGC 635 | 75, 87         | NGC 791 | 50, 51, 62, 63 |
| MCG-1-35-5  | 57, 69 | MCG+1-25-29  | 59             | MCG+3-31-26  | 45, 46     | MCG+6-22-38 | 22, 23, 34, 35 | MCG+9-14-50   | 13         | NGC 99  | 51       | NGC 279   | 63            | NGC 477   | 27      | NGC 636 | 63, 75         | NGC 792 | 50, 51         |
| MCG-1-35-7  | 57, 69 | MCG+1-26-1   | 58, 59         | MCG+3-31-29  | 45, 46     | MCG+6-22-44 | 22, 23, 34, 35 | MCG+9-14-61   | 13         | NGC 100 | 51       | NGC 282   | 39            | NGC 478   | 75, 87  | NGC 638 | 51, 63         | NGC 794 | 50, 51         |
| MCG-1-35-8  | 57, 69 | MCG+1-26-15  | 58             | MCG+3-31-30  | 45, 46     | MCG+6-23-10 | 22, 34         | MCG+9-14-80   | 13, 23     | NGC 101 | 87       | NGC 284   | 75            | NGC 479   | 63      | NGC 641 | 98, 99         | NGC 795 | 107            |
| MCG-1-35-10 | 57, 69 | MCG+1-26-16  | 58             | MCG+3-31-49  | 45         | MCG+6-23-23 | 22, 34         | MCG+9-15-11   | 12, 13     | NGC 102 | 75       | NGC 287   | 39            | NGC 481   | 75      | NGC 642 | 87             | NGC 797 | 26, 27, 38, 39 |
| MCG-1-35-12 | 57, 69 | MCG+1-26-17  | 58             | MCG+3-31-64  | D2         | MCG+6-25-6  | 22, 34         | MCG+9-16-42   | 12         | NGC 105 | 51       | NGC 289   | 87            | NGC 483   | D14     | NGC 645 | 63             | NGC 798 | 38, 39         |
| MCG-1-36-5  | 56, 68 | MCG+1-27-5   | 58             | MCG+3-31-75  | D2         | MCG+6-26-10 | 34             | MCG+9-18-14   | 12, 22     | NGC 106 | 63       | NGC 292   | 108, 113, D28 | NGC 484   | 107     | NGC 652 | 51, 63         | NGC 800 | 62, 63         |
| MCG-1-36-10 | 68     | MCG+1-27-20  | 46, 58         | MCG+3-31-94  | D2         | MCG+6-26-39 | 21, 22, 33, 34 | MCG+9-19-14   | 12         | NGC 108 | 39       | NGC 295   | 39            | NGC 485   | 51, 63  | NGC 656 | 39             | NGC 802 | 107, 113       |
| MCG-1-37-6  | 56, 68 | MCG+1-28-20  | 58             | MCG+3-32-3   | D2         | MCG+6-26-65 | 33, 34         | MCG+9-19-49   | 12, 22     | NGC 112 | 39       | NGC 296   | 39            | NGC 486   | 63      | NGC 658 | 51             | NGC 803 | 50, 51         |
| MCG-1-37-11 | 56, 68 | MCG+1-29-17  | 58             | MCG+3-32-82  | D2         | MCG+6-27-46 | 21, 33         | MCG+9-19-73   | 12         | NGC 113 | 63       | NGC 300   | 87, 99        | NGC 487   | 75      | NGC 660 | 51             | NGC 807 | 38, 39         |
| MCG-1-39-5  | 56     | MCG+1-30-5   | 58             | MCG+3-33-22  | 45         | MCG+6-27-54 | 21, 33         | MCG+9-19-97   | 12, 21, 22 | NGC 114 | 63       | NGC 304   | 39, 51        | NGC 488   | 63      | NGC 661 | 39             | NGC 808 | 74, 75, 86, 87 |
| MCG-1-40-8  | 56, 68 | MCG+1-30-6   | 58             | MCG+3-34-12  | 45         | MCG+6-28-13 | 33             | MCG+9-19-112  | 12         | NGC 115 | 87       | NGC 307   | 63            | NGC 489   | 51, 63  | NGC 662 | 26, 27, 38, 39 | NGC 811 | 74, 75         |
| MCG-1-41-5  | 55     | MCG+1-30-18  | 46, 58         | MCG+3-35-33  | 45         | MCG+6-28-42 | 33             | MCG+9-20-97   | 11, 12, 21 | NGC 118 | 63       | NGC 309   | 75            | NGC 491   | 87      | NGC 664 | 63             | NGC 812 | 26, 27         |
| MCG-1-42-4  | 55     | MCG+1-31-9   | 45, 46, 57, 58 | MCG+3-36-47  | 44, 45     | MCG+6-29-56 | 33             | MCG+9-20-116  | 11, 21, 22 | NGC 119 | 100, 107 | NGC 311   | 39            | NGC 493   | 63      | NGC 665 | 51             | NGC 813 | 107, 113       |
| MCG-1-52-7  | 53     | MCG+1-31-53  | D3             | MCG+3-36-50  | 44         | MCG+6-29-67 | 21, 33         | MCG+9-22-20   | 11, 21     | NGC 124 | 63       | NGC 312   | 99, 107       | NGC 494   | D14     | NGC 666 | 26, 38, 39     | NGC 816 | 38, 39         |
| MCG-1-52-17 | 53, 65 | MCG+1-32-59  | D3             | MCG+3-38-57  | 44         | MCG+6-30-3  | 33             | MCG+9-22-94   | 11         | NGC 125 | 63       | NGC 315   | 87            | NGC 495   | D14     | NGC 667 | 75, 87         | NGC 817 | 50             |
| MCG-1-53-2  | 53     | MCG+1-32-60  | D3             | MCG+3-40-9   | 44         | MCG+6-30-73 | 20, 21, 32, 33 | MCG+9-25-3    | 10, 11, 20 | NGC 128 | 63       | NGC 318   | 39            | NGC 496   | D14     | NGC 668 | 26, 27, 38, 39 | NGC 818 | 26, 27, 38     |
| MCG-1-53-4  | 53     | MCG+1-32-88  | D3             | MCG+3-41-4   | 31, 43, 44 | MCG+6-30-89 | 20, 21, 32, 33 | MCG+9-25-54   | 10         | NGC 131 | 87       | NGC 317   | 27            | NGC 497   | 63      | NGC 669 | 26, 27, 38, 39 | NGC 819 | 38, 39         |
| MCG-1-53-6  | 53     | MCG+1-32-111 | D3             | MCG+3-41-33  | 43, 44     | MCG+6-31-84 | 21, 32, 33     | MCG+9-27-91   | 10, 19     | NGC 132 | 63       | NGC 317A  | 27            | NGC 498   | D14     | NGC 670 | 39             | NGC 820 | 50             |
| MCG-1-53-8  | 53     | MCG+1-34-13  | 45, 57         | MCG+3-41-61  | 43, 44     | MCG+6-32-57 | 32             | MCG+10-10-21  | 13         | NGC 134 | 87       | NGC 318   | 39            | NGC 499   | D14     | NGC 671 | 51             | NGC 821 | 50             |
| MCG-1-53-13 | 53, 65 | MCG+1-35-5   | 57             | MCG+3-41-63  | 43, 44     | MCG+6-32-70 | 32             | MCG+10-12-103 | 13         | NGC 137 | 51       | NGC 319   | 99            | NGC 501   | D14     | NGC 672 | 38, 39         | NGC 822 | 98, 99         |
| MCG-1-53-18 | 53     | MCG+1-35-14  | 57             | MCG+3-41-71  | 43, 44     | MCG+6-33-20 | 20, 32         | MCG+10-17-19  | 11, 12     | NGC 140 | 39       | NGC 320   | 75, 87        | NGC 502   | 51, 63  | NGC 673 | 51             | NGC 823 | 86, 87         |
| MCG-1-53-20 | 53, 65 | MCG+1-35-28  | 57             | MCG+3-41-108 | 43, 44     | MCG+6-38-5  | 19, 31         | MCG+10-17-64  | 4, 11, 12  | NGC 144 | 75, 87   | NGC 322-1 | 99            | NGC 503   | D14     | NGC 676 | 51, 63         | NGC 824 | 86, 87, 98, 99 |
| MCG-1-56-3  | 52     | MCG+1-35-37  | 45, 57         | MCG+3-42-26  | 43         | MCG+6-40-6  | 18, 19, 30, 31 | MCG+10-18-51  | 11, 12     | NGC 145 | 63       | NGC 323   | 99, 107       | NGC 504   | D14     | NGC 677 | 51             | NGC 827 | 50, 62         |
| MCG-1-56-5  | 52     | MCG+1-36-5   | 44, 45, 56, 57 | MCG+3-43-5   | 43         | MCG+6-41-6  | 18, 30         | MCG+10-19-71  | 11         | NGC 147 | 16, 27   | NGC 324   | 99            | NGC 505   | 51, 63  | NGC 678 | 39, 51         | NGC 828 | 26, 27         |
| MCG-1-57-4  | 52     | MCG+1-36-24  | 44, 56         | MCG+3-47-8   | 42         | MCG+6-49-60 | 28             | MCG+10-23-14  | 10         | NGC 148 | 87       | NGC 326   | 39            | NGC 507   | 39, D14 | NGC 679 | D18            | NGC 829 | 62, 74         |
| MCG-1-57-16 | 52     | MCG+1-37-33  | 44, 56         | MCG+3-47-10  | 42         | MCG+6-49-72 | 28             | MCG+10-23-51  | 4, 10      | NGC 150 | 87       | NGC 332   | 51, 63        | NGC 508   | D14     | NGC 680 | 39, 51         | NGC 830 | 62, 74         |
| MCG-1-58-9  | 52     | MCG+1-37-41  | 56             | MCG+3-60-22  | 40         | MCG+6-50-25 | 16, 28         | MCG+10-23-55  | 10         | NGC 151 | 75       | NGC 333B  | 75            | NGC 513   | D14     | NGC 681 | 75             | NGC 831 | 50, 62         |
| MCG-1-58-15 | 52, 64 | MCG+1-37-43  | 56             | MCG+4-5-36   | 38, 39     | MCG+7-2-18  | 27             | MCG+10-24-52  | 10         | NGC 157 | 63, 75   | NGC 337   | 63, 75        | NGC 514   | D14     | NGC 682 | 75             | NGC 833 | 74             |
| MCG-1-60-12 | 52     | MCG+1-39-18  | 56             | MCG+4-6-49   | 38         | MCG+7-2-19  | 27             | MCG+10-24-80  | 10         | NGC 160 | 39, 51   | NGC 338   | 39            | NGC 515   | D14     | NGC 683 | 51             | NGC 834 | 26, 27, 38, 39 |
| MCG-1-60-14 | 52     | MCG+1-39-24  | 56             | MCG+4-7-8    | 38, 50     | MCG+7-3-31  | 27             | MCG+10-25-34  | 9, 10      | NGC 161 | 63       | NGC 340   | 63, 75        | NGC 516   | 51      | NGC 684 | 38, 39         | NGC 835 | 74             |
| MCG-1-60-21 | 52     | MCG+1-41-4   | 55, 56         | MCG+4-7-17   | 38         | MCG+7-6-6   | 26, 27         | MCG+10-25-116 | 9, 10      | NGC 163 | 75       | NGC 341   | 75            | NGC 517   | D14     | NGC 685 | 98, 99, 107    | NGC 836 | 74, 86         |



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| NGC 914  | 26     | NGC 1080   | 62       | NGC 1256  | 74, 86             | NGC 1389   | 86, 98, D10         | NGC 1559 | 106, 113    | NGC 1739  | 73               | NGC 2283   | 72            | NGC 2513  | 47, 48         | NGC 2685   | 12, 13     | NGC 2836   | 111, 112   |
| NGC 915  | 38     | NGC 1081   | 74       | NGC 1258  | 74, 86             | NGC 1391   | 74                  | NGC 1560 | 6, 7        | NGC 1740  | 61               | NGC 2288   | 36            | NGC 2514  | 47, 48         | NGC 2691   | 23, 35     | NGC 2838   | 23, 35     |
| NGC 918  | 50     | NGC 1082-1 | 62, 74   | NGC 1259  | D20                | NGC 1393   | 74                  | NGC 1562 | 73          | NGC 1741A | 61               | NGC 2299   | 36            | NGC 2517  | 71, 72         | NGC 2692   | 12, 13, 23 | NGC 2840   | 35         |
| NGC 922  | 86     | NGC 1084   | 62, 74   | NGC 1260  | D20                | NGC 1394   | 74                  | NGC 1565 | 73          | NGC 1744  | 85               | NGC 2290   | 36            | NGC 2518  | 13, 23, 24     | NGC 2693   | 12, 13, 23 | NGC 2841   | 12, 22, 23 |
| NGC 923  | 26     | NGC 1085   | 62       | NGC 1263  | 74                 | NGC 1395   | 74, 86              | NGC 1566 | 106         | NGC 1752  | 61, 73           | NGC 2291   | 36            | NGC 2521  | 13             | NGC 2695   | 59         | NGC 2842   | 104, 105   |
| NGC 924  | 50     | NGC 1086   | 26       | NGC 1265  | D20                | NGC 1396   | D10                 | NGC 1567 | 97, 98      | NGC 1759  | 85, 97           | NGC 2292   | 84            | NGC 2522  | 47, 48         | NGC 2696   | 59         | NGC 2844   | 23         |
| NGC 925  | 38     | NGC 1087   | 62       | NGC 1266  | 62                 | NGC 1398   | 86                  | NGC 1569 | 6, 7, 14    | NGC 1762  | 61               | NGC 2293   | 84            | NGC 2523  | 5, 6           | NGC 2697   | 59         | NGC 2845   | 83, 95     |
| NGC 926  | 62     | NGC 1088   | 50       | NGC 1267  | D20                | NGC 1399   | 86, 98, D10         | NGC 1570 | 97, 98      | NGC 1765  | 106              | NGC 2294   | 36            | NGC 2523A | 5, 6           | NGC 2698   | 59         | NGC 2848   | 71         |
| NGC 927  | 50     | NGC 1089   | 74       | NGC 1268  | D20                | NGC 1400   | 74                  | NGC 1572 | 97, 98      | NGC 1779  | 73               | NGC 2295   | 84            | NGC 2523C | 5, 6           | NGC 2699   | 59         | NGC 2851   | 71         |
| NGC 928  | 38     | NGC 1090   | 62       | NGC 1270  | D20                | NGC 1401   | 74, 86              | NGC 1573 | 6, 7        | NGC 1780  | 73               | NGC 2297   | 105, 106      | NGC 2524  | 23, 24         | NGC 2701   | 12, 13, 23 | NGC 2852   | 23         |
| NGC 932  | 50     | NGC 1092   | 74       | NGC 1272  | D20                | NGC 1402   | 74                  | NGC 1574 | 106         | NGC 1781  | 73               | NGC 2300   | 1             | NGC 2525  | 71             | NGC 2704   | 23, 35     | NGC 2853   | 23         |
| NGC 934  | 62     | NGC 1093   | 38       | NGC 1273  | D20                | NGC 1403   | 74, 86              | NGC 1576 | 61          | NGC 1784  | 73               | NGC 2303   | 24            | NGC 2528  | 23, 24         | NGC 2706   | 59         | NGC 2854   | 22, 23     |
| NGC 935  | 50     | NGC 1094   | 62       | NGC 1275  | D20                | NGC 1404   | 86, 98, D10         | NGC 1577 | 73          | NGC 1792  | 85, 97           | NGC 2305   | 105, 106      | NGC 2532  | 35, 36         | NGC 2708   | 59         | NGC 2855   | 71         |
| NGC 936  | 62     | NGC 1095   | 62       | NGC 1277  | D20                | NGC 1406   | 86                  | NGC 1578 | 97, 98, 106 | NGC 1796  | 106              | NGC 2307   | 105, 106      | NGC 2534  | 13             | NGC 2709   | 59         | NGC 2856   | 22, 23     |
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| NGC 939  | 98, 99 | NGC 1097   | 86       | NGC 1280  | 62                 | NGC 1409   | 62                  | NGC 1581 | 106         | NGC 1800  | 85               | NGC 2314   | 5, 6          | NGC 2536  | 35, 47         | NGC 2711   | 47         | NGC 2858   | 59         |
| NGC 940  | 38     | NGC 1097A  | 86       | NGC 1281  | D20                | NGC 1410   | 62                  | NGC 1583 | 73          | NGC 1803  | 97               | NGC 2320   | D15           | NGC 2537  | 23, 24         | NGC 2712   | 23         | NGC 2859   | 35         |
| NGC 941  | 62     | NGC 1098   | 74       | NGC 1282  | D20                | NGC 1411   | 97, 98              | NGC 1584 | 73          | NGC 1808  | 85, 97           | NGC 2325   | 84            | NGC 2538  | 59             | NGC 2713   | 59         | NGC 2861   | 59         |
| NGC 945  | 74     | NGC 1099   | 74       | NGC 1283  | D20                | NGC 1412   | 86                  | NGC 1585 | 97          | NGC 1809  | D29              | NGC 2328   | 96            | NGC 2541  | 23, 24         | NGC 2714   | 104, 105   | NGC 2863   | 71         |
| NGC 947  | 74     | NGC 1100   | 74       | NGC 1285  | 62, 74             | NGC 1415   | 74, 86              | NGC 1586 | 61          | NGC 1812  | 85               | NGC 2329   | 24            | NGC 2543  | 23, 24, 35, 36 | NGC 2715   | 1, 5, 6    | NGC 2865   | 71, 83     |
| NGC 949  | 26, 38 | NGC 1101   | 62       | NGC 1286  | 62, 74             | NGC 1416   | 74, 86              | NGC 1587 | 61          | NGC 1819  | 61               | NGC 2332   | D15           | NGC 2544  | 5, 6           | NGC 2716   | 59         | NGC 2868   | 71         |
| NGC 953  | 38     | NGC 1103   | 74       | NGC 1287  | 62                 | NGC 1417   | 62                  | NGC 1588 | 61          | NGC 1824  | 106              | NGC 2333   | 36            | NGC 2545  | 35, 47         | NGC 2717   | 83         | NGC 2872   | 47         |
| NGC 954  | 98     | NGC 1104   | 62       | NGC 1288  | 86                 | NGC 1418   | 62                  | NGC 1589 | 61          | NGC 1827  | 85, 97           | NGC 2334   | D15           | NGC 2549  | 13             | NGC 2718   | 47, 59     | NGC 2874   | 47         |
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| NGC 958  | 62     | NGC 1106   | 26       | NGC 1291  | 98                 | NGC 1421   | 74                  | NGC 1591 | 85          | NGC 1843  | 73               | NGC 2337   | 24            | NGC 2550A | 5, 6           | NGC 2719A  | 35         | NGC 2878   | 59         |
| NGC 959  | 38     | NGC 1107   | 50, 62   | NGC 1292  | 86                 | NGC 1425   | 86                  | NGC 1594 | 61, 73      | NGC 1853  | 106              | NGC 2339   | 48            | NGC 2551  | 5, 6           | NGC 2720   | 47         | NGC 2880   | 12, 13     |
| NGC 962  | 38     | NGC 1108   | 62, 74   | NGC 1293  | D20                | NGC 1426   | 74, 86              | NGC 1595 | 97, 98      | NGC 1875  | 49, 61           | NGC 2340   | D15           | NGC 2552  | 23, 24         | NGC 2721   | 59         | NGC 2881-1 | 71         |
| NGC 963  | 62     | NGC 1109   | 50       | NGC 1294  | D20                | NGC 1427   | 85, 86, 97, 98, D10 | NGC 1596 | 106         | NGC 1879  | 85               | NGC 2341   | 48            | NGC 2554  | 35, 47         | NGC 2722   | 59         | NGC 2881-2 | 71         |
| NGC 964  | 86, 98 | NGC 1114   | 74       | NGC 1297  | 74                 | NGC 1427A  | D10                 | NGC 1597 | 73          | NGC 1888  | 73               | NGC 2342   | 48            | NGC 2555  | 59             | NGC 2723   | 59         | NGC 2882   | 47, 59     |
| NGC 966  | 74     | NGC 1117A  | 50       | NGC 1298  | 62                 | NGC 1428   | D10                 | NGC 1598 | 97, 98      | NGC 1889  | 73               | NGC 2344   | 24            | NGC 2556  | 35, 47         | NGC 2725   | 47         | NGC 2884   | 71         |
| NGC 967  | 74     | NGC 1119   | 74       | NGC 1299  | 62, 74             | NGC 1433   | 97, 98              | NGC 1599 | 61          | NGC 1892  | 105, 106         | NGC 2347   | 6, 13         | NGC 2557  | 35, 47         | NGC 2726   | 12, 13     | NGC 2885   | 35, 47     |
| NGC 968  | 38     | NGC 1120   | 74       | NGC 1300  | 74                 | NGC 1436   | D10                 | NGC 1600 | 61          | NGC 1924  | 61               | NGC 2350   | 48            | NGC 2558  | 47             | NGC 2728   | 47         | NGC 2887   | 104, 105   |
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| NGC 974  | 38     | NGC 1125   | 74       | NGC 1304  | 62                 | NGC 1440   | 74                  | NGC 1603 | 61          | NGC 1954  | 73               | NGC 2369   | 105           | NGC 2562  | 35, 47         | NGC 2731   | 47, 59     | NGC 2891   | 83         |
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| NGC 980  | 26     | NGC 1132   | 62       | NGC 1310  | D10                | NGC 1451   | 62                  | NGC 1613 | 61          | NGC 1989  | 85               | NGC 2376   | 36, 48        | NGC 2569  | 35, 47         | NGC 2742A  | 12, 13     | NGC 2896   | 35, 47     |
| NGC 982  | 26     | NGC 1133   | 62, 74   | NGC 1313  | 106, 107, 112, 113 | NGC 1452   | 74                  | NGC 1614 | 61, 73      | NGC 1992  | 85               | NGC 2377   | 72            | NGC 2573  | 114            | NGC 2743   | 35         | NGC 2898   | 59         |
| NGC 985  | 62, 74 | NGC 1134   | 50       | NGC 1315  | 74, 86             | NGC 1453   | 62                  | NGC 1615 | 49          | NGC 1993  | 73               | NGC 2379   | 36            | NGC 2574  | 59, 71         | NGC 2744   | 47         | NGC 2900   | 59         |
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| NGC 987  | 38     | NGC 1137   | 62       | NGC 1316A | D10                | NGC 1459   | 86                  | NGC 1617 | 106         | NGC 2012  | 112, 113         | NGC 2382   | 84            | NGC 2577  | 35, 47         | NGC 2746   | 35         | NGC 2903   | 35, 47     |
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| NGC 989  | 74     | NGC 1140   | 74       | NGC 1316C | D10                | NGC 1461   | 74                  | NGC 1620 | 61          | NGC 2073  | 73, 85           | NGC 2397   | 105, 111, 112 | NGC 2581  | 47             | NGC 2749   | 47         | NGC 2906   | 47, 59     |
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| NGC 991  | 62, 74 | NGC 1142   | 62       | NGC 1319  | 74, 86             | NGC 1469   | 6, 7, 14            | NGC 1625 | 61          | NGC 2082  | 105, 106         | NGC 2402-1 | 48            | NGC 2583  | 59             | NGC 2753-2 | 35         | NGC 2908   | 1, 5, 6    |
| NGC 993  | 62     | NGC 1149   | 62       | NGC 1320  | 62                 | NGC 1473   | 106, 112, 113       | NGC 1627 | 61          | NGC 2087  | 105, 106         | NGC 2403   | 5, 6, 13      | NGC 2591  | 23             | NGC 2755   | 23         | NGC 2911   | 47         |
| NGC 995  | 26     | NGC 1153   | 62       | NGC 1321  | 62                 | NGC 1476   | 97, 98              | NGC 1631 | 73, 85      | NGC 2089  | 73               | NGC 2405-1 | 36            | NGC 2592  | 35             | NGC 2756   | 12, 13, 23 | NGC 2913   | 47         |
| NGC 996  | 26     | NGC 1154   | 74       | NGC 1322  | 62                 | NGC 1477   | 62, 74              | NGC 1633 | 49, 61      | NGC 2090  | 84, 85, 96       | NGC 2405-2 | 36            | NGC 2594  | 35             | NGC 2759   | 23, 35     | NGC 2914   | 47         |
| NGC 997  | 50, 62 | NGC 1155   | 74       | NGC 1324  | 62, 74             | NGC 1481   | 73, 74, 85, 86      | NGC 1634 | 49, 61      | NGC 2101  | 96, 97, 105, 106 | NGC 2406   | 48            | NGC 2595  | 35, 47         | NGC 2761   | 47         | NGC 2915   | 111, 112   |
| NGC 999  | 26     | NGC 1156   | 38       | NGC 1325  | 74, 86             | NGC 1482   | 73, 74, 85, 86      | NGC 1635 | 61          | NGC 2104  | 96, 97, 105, 106 | NGC 2407   | 48            | NGC 2596  | 47             | NGC 2763   | 71         | NGC 2916   | 35, 47     |
| NGC 1002 | 38     | NGC 1159   | 26       | NGC 1325A | 74, 86             | NGC 1483   | 97, 98              | NGC 1636 | 61, 73      | NGC 2106  | 73, 85           | NGC 2411   | 48            | NGC 2599  | 35, 47         | NGC 2764   | 35, 47     | NGC 2918   | 35         |
| NGC 1003 | 26     | NGC 1160   | 26       | NGC 1326  | 86, 98, D10        | NGC 1484   | 85, 86, 97, 98      | NGC 1637 | 61          | NGC 2110  | 61, 73           | NGC 2415   | 36            | NGC 2601  | 105, 111, 112  | NGC 2765   | 59         | NGC 2919   | 47         |
| NGC 1004 | 62     | NGC 1161   | 26       | NGC 1329  | 74                 | NGC 1485   | 6, 7                | NGC 1638 | 61          | NGC 2115  | 96, 97, 105, 106 | NGC 2416   | 48            | NGC 2602  | 13, 23         | NGC 2767   | 12, 13, 23 | NGC 2920   | 71, 83     |
| NGC 1005 | 26     | NGC 1162   | 74       | NGC 1331  | 74, 86             | NGC 1487   | 97, 98              | NGC 1640 | 73, 85      | NGC 2119  | 48, 49           | NGC 2417   | 105           | NGC 2604A | 35             | NGC 2768   | 12, 13     | NGC 2921   | 71, 83     |
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| NGC 3017   | 59            | NGC 3162   | 34, 46     | NGC 3296   | 70      | NGC 3434  | 58     | NGC 3593   | 46       | NGC 3726  | 21, 22      | NGC 3878   | 33, 34         | NGC 4030   | 57, 58         | NGC 4185  | 33             | NGC 4313   | D2           |
| NGC 3018   | 59            | NGC 3163   | 22, 23, 34 | NGC 3298   | 22, 23  | NGC 3435  | 12     | NGC 3595   | 22       | NGC 3729  | 12, 22      | NGC 3880   | 33, 34         | NGC 4032   | 45, 46         | NGC 4186  | D2             | NGC 4314   | 33           |
| NGC 3020   | 47            | NGC 3164   | 12         | NGC 3300   | 46      | NGC 3436  | 46, 58 | NGC 3596   | 46       | NGC 3730  | 58          | NGC 3882   | 103, 104       | NGC 4033   | 69, 70         | NGC 4187  | 11, 21, 22     | NGC 4318   | D3           |
| NGC 3021   | 34, 35        | NGC 3166   | 58         | NGC 3301   | 34, 46  | NGC 3437  | 34, 46 | NGC 3597   | 70, 82   | NGC 3731  | 46          | NGC 3883   | D23            | NGC 4035   | 69, 70         | NGC 4188  | 69             | NGC 4319   | 4, 5         |
| NGC 3022   | 59            | NGC 3168   | 12         | NGC 3302   | 82      | NGC 3438  | 46     | NGC 3598   | 46       | NGC 3732  | 70          | NGC 3884   | D23            | NGC 4036   | 11, 12         | NGC 4189  | D2             | NGC 4323   | D2           |
| NGC 3023-1 | 59            | NGC 3169   | 58         | NGC 3303   | 46      | NGC 3439  | 46, 58 | NGC 3599   | 46       | NGC 3733  | 12          | NGC 3885   | 82             | NGC 4037   | 45, 46         | NGC 4190  | 21, 22, 33, 34 | NGC 4324   | D3           |
| NGC 3023-2 | 59            | NGC 3171   | 70, 82     | NGC 3305   | D22     | NGC 3441  | 46, 58 | NGC 3600   | 22       | NGC 3735  | 4, 5        | NGC 3886   | D23            | NGC 4038   | 69, 70         | NGC 4191  | D2             | NGC 4326   | D3           |
| NGC 3024   | 47            | NGC 3172   | 1          | NGC 3306   | 46      | NGC 3442  | 34     | NGC 3601   | 58       | NGC 3737  | 12          | NGC 3887   | 70             | NGC 4039   | 69, 70         | NGC 4193  | D3             | NGC 4328   | D2           |
| NGC 3025   | 71, 83        | NGC 3173   | 82         | NGC 3307   | D22     | NGC 3445  | 12     | NGC 3605   | 46       | NGC 3738  | 12          | NGC 3888   | 11, 12         | NGC 4041   | 11, 12         | NGC 4194  | 11, 12         | NGC 4329   | 69           |
| NGC 3027   | 4, 5, 6       | NGC 3174   | 4, 5, 6    | NGC 3308   | D22     | NGC 3447A | 46     | NGC 3606   | 82       | NGC 3742  | 82, 94      | NGC 3890   | 4, 5           | NGC 4043   | 57, 58         | NGC 4196  | 33             | NGC 4332   | 4, 5, 11, 12 |
| NGC 3028   | 71            | NGC 3175   | 82         | NGC 3309   | 82, D22 | NGC 3448  | 12, 22 | NGC 3607   | 46       | NGC 3743  | 34, 46      | NGC 3891   | 33, 34         | NGC 4044   | 57, 58         | NGC 4198  | 11, 12         | NGC 4333   | D3           |
| NGC 3030   | 71            | NGC 3176   | 70, 82     | NGC 3310   | 12, 22  | NGC 3449  | 82     | NGC 3608   | 46       | NGC 3745  | 34, 46      | NGC 3892   | 70             | NGC 4045   | 57, 58         | NGC 4200  | 69             | NGC 4335   | 11, 12       |
| NGC 3032   | 34, 35        | NGC 3177   | 34, 46     | NGC 3311   | 82, D22 | NGC 3450  | 70, 82 | NGC 3609   | 34       | NGC 3750  | 34, 46      | NGC 3893   | 21, 22         | NGC 4047   | 12, 21, 22     | NGC 4201  | D2             | NGC 4336   | 45           |
| NGC 3035   | 59, 71        | NGC 3178   | 70         | NGC 3312   | D22     | NGC 3451  | 34     | NGC 3610   | 12       | NGC 3752  | 4, 5        | NGC 3894   | 11, 12         | NGC 4048   | 45, 46         | NGC 4202  | 57             | NGC 4339   | 45, 57, D3   |
| NGC 3037   | 82, 83        | NGC 3179   | 22, 23     | NGC 3313   | 82      | NGC 3453  | 70, 82 | NGC 3611   | 58       | NGC 3754  | 34, 46      | NGC 3895   | 11, 12         | NGC 4049   | 45, 46         | NGC 4203  | 33, 34         | NGC 4340   | 45, D2       |
| NGC 3038   | 82, 83        | NGC 3182   | 12         | NGC 3314   | D22     | NGC 3455  | 46     | NGC 3613   | 46       | NGC 3756  | 12          | NGC 3896   | 21, 22         | NGC 4050   | 69, 70         | NGC 4205  | 4, 5, 11, 12   | NGC 4341   | D3           |
| NGC 3039   | 59            | NGC 3183   | 4, 5, 6    | NGC 3314A  | D22     | NGC 3456  | 70     | NGC 3614   | 22       | NGC 3757  | 11, 12      | NGC 3897   | 21, 33, 34     | NGC 4051   | 21, 22         | NGC 4206  | D2             | NGC 4342   | D3           |
| NGC 3040A  | 46, 47        | NGC 3184   | 22, 23     | NGC 3314B  | D22     | NGC 3457  | 46     | NGC 3615   | 34, 46   | NGC 3758  | 34, 46      | NGC 3898   | 11, 12         | NGC 4054-1 | 11, 12         | NGC 4207  | D2             | NGC 4343   | D3           |
| NGC 3041   | 47            | NGC 3185   | 34, 46     | NGC 3315   | D22     | NGC 3458  | 12     | NGC 3617   | 82       | NGC 3759  | 11, 12      | NGC 3900   | 33, 34         | NGC 4058   | 57, 58         | NGC 4210  | 4, 5, 11, 12   | NGC 4344   | D2           |
| NGC 3042   | 59            | NGC 3186-1 | 46, 58     | NGC 3316-1 | D22     | NGC 3461  | 46     | NGC 3618   | 34, 46   | NGC 3759A | 11, 12      | NGC 3902   | 33, 34         | NGC 4061   | 34, 45, 46     | NGC 4211  | 33             | NGC 4346   | 21, 22       |
| NGC 3043   | 12            | NGC 3187   | 34, 46     | NGC 3318   | 94      | NGC 3462  | 46, 58 | NGC 3619   | 12       | NGC 3762  | 11, 12      | NGC 3903   | 81, 82, 93, 94 | NGC 4062   | 33, 34         | NGC 4211B | 33             | NGC 4348   | 57           |
| NGC 3044   | 59            | NGC 3188   | 12         | NGC 3318B  | 94      | NGC 3463  | 82     | NGC 3621   | 82       | NGC 3763  | 70          | NGC 3904   | 81, 82         | NGC 4064   | 45, 46         | NGC 4212  | 45, D2         | NGC 4350   | 45, D2       |
| NGC 3045   | 70, 71        | NGC 3190   | 34, 46     | NGC 3319   | 22      | NGC 3464  | 70, 82 | NGC 3622   | 4, 5, 12 | NGC 3767  | 46          | NGC 3905   | 70             | NGC 4065   | 34, 45, 46     | NGC 4213  | 33, 45         | NGC 4351   | D2           |
| NGC 3047   | 59            | NGC 3192   | 22, 23     | NGC 3320   | 22      | NGC 3465  | 4, 5   | NGC 3624   | 46, 58   | NGC 3768  | 46          | NGC 3906   | 21, 22         | NGC 4066   | 33, 34, 45, 46 | NGC 4214  | 21, 22, 33, 34 | NGC 4352   | D2           |
| NGC 3047A  | 59            | NGC 3193   | 34, 46     | NGC 3323   | 34      | NGC 3466  | 46     | NGC 3625   | 12       | NGC 3769  | 21, 22      | NGC 3907A  | 58             | NGC 4067   | 45, 46         | NGC 4215  | 45, 57, D3     | NGC 4353   | D3           |
| NGC 3048-1 | 47            | NGC 3197   | 4, 5, 6    | NGC 3325   | 58      | NGC 3467  | 46     | NGC 3626   | 46       | NGC 3770  | 11, 12      | NGC 3910   | 34, 46         | NGC 4068   | 11, 12, 21, 22 | NGC 4216  | 45, D2         | NGC 4358   | 11, 12       |
| NGC 3049   | 47, 59        | NGC 3198   | 22, 23     | NGC 3326   | 58      | NGC 3468  | 22     | NGC 3628   | 46       | NGC 3771  | 70          | NGC 3912   | 33, 34         | NGC 4070   | 33, 34, 45, 46 | NGC 4217  | 21, 22         | NGC 4360A  | D3           |
| NGC 3051   | 82, 83        | NGC 3200   | 70         | NGC 3327   | 34, 46  | NGC 3469  | 70     | NGC 3629   | 34       | NGC 3772  | 34, 46      | NGC 3914   | 46, 58         | NGC 4073   | 57             | NGC 4218  | 21, 22         | NGC 4360B  | D3           |
| NGC 3052   | 70, 71        | NGC 3202   | 22, 23     | NGC 3329   | 4, 5    | NGC 3470  | 12     | NGC 3630   | 58       | NGC 3773  | 46          | NGC 3917   | 11, 12, 21, 22 | NGC 4076   | 34, 45, 46     | NGC 4219  | 93, 94         | NGC 4365   | 45, 57, D3   |
| NGC 3053   | 46, 47        | NGC 3203   | 82         | NGC 3331   | 70, 82  | NGC 3471  | 12     | NGC 3631   | 12, 22   | NGC 3774  | 58, 70      | NGC 3919   | 46             | NGC 4077   | 57             | NGC 4220  | 21, 22         | NGC 4368   | D2, D3       |
| NGC 3054   | 82, 83        | NGC 3205   | 22, 23     | NGC 3334   | 22, 34  | NGC 3473  | 46     | NGC 3633   | 58       | NGC 3776  | 58          | NGC 3920   | 34             | NGC 4079   | 57             | NGC 4221  | 4, 5, 11, 12   | NGC 4369   | 21           |
| NGC 3055   | 59            | NGC 3206   | 12         | NGC 3335   | 70, 82  | NGC 3474  | 46     | NGC 3636   | 70       | NGC 3777  | 70          | NGC 3921   | 11, 12         | NGC 4080   | 33, 34         | NGC 4222  | D2             | NGC 4370   | D3           |
| NGC 3056   | 82, 83        | NGC 3208   | 82         | NGC 3336   | D22     | NGC 3476  | 46, 58 | NGC 3637   | 70       | NGC 3778  | 93, 94, 104 | NGC 3922   | 11, 12, 21, 22 | NGC 4081   | 4, 5, 11, 12   | NGC 4223  | D3             | NGC 4371   | 45, D2       |
| NGC 3057   | 1, 5          | NGC 3209   | 34         | NGC 3337   | 58      | NGC 3478  | 22     | NGC 3639   | 46       | NGC 3780  | 11, 12      | NGC 3923   | 81, 82         | NGC 4085   | 11, 12, 21, 22 | NGC 4224  | D3             | NGC 4373   | 93           |
| NGC 3058   | 71            | NGC 3212   | 4, 5       | NGC 3338   | 46      | NGC 3479  | 70     | NGC 3640   | 58       | NGC 3781  | 34          | NGC 3926-1 | 33, 34, 45, 46 | NGC 4087   | 81, 82         | NGC 4225  | 69             | NGC 4373A  | 93           |
| NGC 3059   | 110, 111, 112 | NGC 3213   | 46         | NGC 3340   | 58      | NGC 3481  | 58, 7  | NGC 3641   | 58       | NGC 3782  | 21, 22      | NGC 3928   | 21, 22         | NGC 4088   | 11, 12, 21, 22 | NGC 4226  | 21, 22         | NGC 4375   | 33           |
| NGC 3060   | 46, 47        | NGC 3215   | 4, 5       | NGC 3342   | 46, 58  | NGC 3482  | 94     | NGC 3642   | 11, 12   | NGC 3783  | 82, 93, 94  | NGC 3929   | 34, 46         | NGC 4089   | 33, 34, 45, 46 | NGC 4227  | 33, 34         | NGC 4376   | D3           |
| NGC 3061   | 4, 5, 6       | NGC 3218   | 4, 5, 6    | NGC 3343   | 4, 5, 6 | NGC 3483  | 82     | NGC 3646   | 46       | NGC 3786  | 34          | NGC 3930   | 21, 22, 33, 34 | NGC 4092   | 33, 34, 45, 46 | NGC 4229  | 33, 34         | NGC 4377-1 | 45, D2       |
| NGC 3065   | 4, 5, 6       | NGC 3219   | 22, 34     | NGC 3344   | 34      | NGC 3485  | 46     | NGC 3647   | 58       | NGC 3787  | 46          | NGC 3933   | 46             | NGC 4094   | 69, 70         | NGC 4231  | 21, 22         | NGC 4378   | D3           |
| NGC 3066   | 4, 5, 6       | NGC 3220   | 12         | NGC 3346   | 46      | NGC 3486  | 34     | NGC 3648   | 22       | NGC 3788  | 34          | NGC 3935   | 33, 34         | NGC 4095   | 33, 45         | NGC 4233  | D3             | NGC 4379   | 45, D2       |
| NGC 3067   | 34, 35        | NGC 3222   | 46         | NGC 3347   | 82, 94  | NGC 3487  | 46     | NGC 3651-1 | 34, 46   | NGC 3789  | 70          | NGC 3936   | 81, 82         | NGC 4      |                |           |                |            |              |



|           |              |           |            |           |         |            |        |            |         |            |            |            |                |           |                |            |               |           |            |
|-----------|--------------|-----------|------------|-----------|---------|------------|--------|------------|---------|------------|------------|------------|----------------|-----------|----------------|------------|---------------|-----------|------------|
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| NGC 4441  | 4, 5, 11, 12 | NGC 4580  | 57, D3     | NGC 4699  | 57, 69  | NGC 4865   | D24    | NGC 5005   | 21, 33  | NGC 5145   | 21         | NGC 5297   | 20, 21         | NGC 5454  | 44, 45         | NGC 5612   | 109, 110, 114 | NGC 5771  | 32         |
| NGC 4442  | 45, D2, D3   | NGC 4581  | 57         | NGC 4700  | 69      | NGC 4866   | 45     | NGC 5006   | 69      | NGC 5146   | 69         | NGC 5298   | D25            | NGC 5456  | 44, 45         | NGC 5613   | 32            | NGC 5772  | 20         |
| NGC 4444  | 93, 94       | NGC 4583  | 33         | NGC 4701  | 57      | NGC 4867   | D24    | NGC 5007   | 11      | NGC 5147   | 57         | NGC 5300   | 57             | NGC 5459  | 44, 45         | NGC 5614   | 32            | NGC 5773  | 32         |
| NGC 4446  | D2           | NGC 4584  | D2         | NGC 4704  | 21      | NGC 4868   | 21, 33 | NGC 5008   | 32      | NGC 5149   | 21, 33     | NGC 5301   | 20, 21         | NGC 5463  | 44, 56         | NGC 5615   | 32            | NGC 5774  | 56         |
| NGC 4447  | D2           | NGC 4585  | 33         | NGC 4706  | D19     | NGC 4869   | D24    | NGC 5010   | 69      | NGC 5150   | 81         | NGC 5302   | D25            | NGC 5464  | 80, 81         | NGC 5619A  | 56            | NGC 5775  | 56         |
| NGC 4448  | 33           | NGC 4586  | D3         | NGC 4709  | 93, D19 | NGC 4871   | D24    | NGC 5011   | 93      | NGC 5151   | 45         | NGC 5303A  | 20, 21, 33     | NGC 5468  | 56, 68         | NGC 5620   | 4             | NGC 5782  | 44         |
| NGC 4449  | 21, 22       | NGC 4587  | D3         | NGC 4710  | 45      | NGC 4872   | D24    | NGC 5011B  | 93      | NGC 5152   | 81         | NGC 5304   | D25            | NGC 5469  | 44, 56         | NGC 5622   | 20, 21        | NGC 5783  | 10, 11     |
| NGC 4450  | 45, D2       | NGC 4589  | 4, 5       | NGC 4711  | 33      | NGC 4873   | D24    | NGC 5011C  | 93      | NGC 5153   | 81         | NGC 5306   | 57, 69         | NGC 5473  | 11             | NGC 5623   | 32            | NGC 5784  | 20         |
| NGC 4451  | D3           | NGC 4592  | 57         | NGC 4712  | 33      | NGC 4874   | D24    | NGC 5012   | 33, 45  | NGC 5156   | 92, 93     | NGC 5308   | 11             | NGC 5474  | 11, 20         | NGC 5624   | 11, 20, 21    | NGC 5786  | 92         |
| NGC 4452  | D2           | NGC 4593  | 57         | NGC 4713  | 57      | NGC 4877   | 69     | NGC 5014   | 21, 33  | NGC 5157   | 33         | NGC 5311   | 20, 21         | NGC 5475  | 11             | NGC 5625-1 | 20            | NGC 5787  | 20         |
| NGC 4454  | 57           | NGC 4595  | D2         | NGC 4714  | 69      | NGC 4878   | 57, 69 | NGC 5015   | 57      | NGC 5158   | 45         | NGC 5312   | 32, 33         | NGC 5476  | 56, 68         | NGC 5626   | 80            | NGC 5789  | 32         |
| NGC 4455  | 33, 45       | NGC 4596  | 45, D2, D3 | NGC 4716  | 69      | NGC 4880   | 45     | NGC 5016   | 33, 45  | NGC 5161   | 81         | NGC 5313   | 20, 21         | NGC 5478  | 56             | NGC 5627   | 44            | NGC 5790  | 44, 56     |
| NGC 4456  | 81           | NGC 4597  | 57, 69     | NGC 4719  | 33      | NGC 4881   | D24    | NGC 5017   | 69      | NGC 5164   | 11         | NGC 5318   | 32, 33         | NGC 5480  | 11, 20, 21     | NGC 5628   | 44            | NGC 5791  | 68         |
| NGC 4457  | 57, D3       | NGC 4598  | D3         | NGC 4720  | 57      | NGC 4882   | D24    | NGC 5018   | 69      | NGC 5165   | 45         | NGC 5320   | 20, 21         | NGC 5481  | 11, 20, 21     | NGC 5629   | 32            | NGC 5792  | 56         |
| NGC 4458  | 45, D2       | NGC 4599  | 57         | NGC 4722  | 69      | NGC 4883   | D24    | NGC 5019   | 57      | NGC 5167   | 45         | NGC 5322   | 11             | NGC 5482  | 44, 56         | NGC 5630   | 20            | NGC 5793  | 68         |
| NGC 4459  | 45, D2       | NGC 4600  | D3         | NGC 4724  | 69      | NGC 4885   | 57, 69 | NGC 5020   | 45      | NGC 5169   | 20, 21     | NGC 5324   | 57, 69         | NGC 5483  | 92, 93         | NGC 5631   | 11            | NGC 5794  | 10, 11, 20 |
| NGC 4460  | 21, 22       | NGC 4602  | 57         | NGC 4725  | 33      | NGC 4887   | 69     | NGC 5021   | 21      | NGC 5170   | 69         | NGC 5326   | 20, 21         | NGC 5485  | 11             | NGC 5633   | 20, 21        | NGC 5795  | 20         |
| NGC 4461  | 45, D2       | NGC 4603  | D19        | NGC 4727  | 69      | NGC 4888   | 57, 69 | NGC 5022   | 93      | NGC 5171   | 45         | NGC 5327   | 57             | NGC 5486  | 11             | NGC 5635   | 32            | NGC 5796  | 68         |
| NGC 4462  | 69, 81       | NGC 4603C | D19        | NGC 4729  | D19     | NGC 4889   | D24    | NGC 5027   | 45, 57  | NGC 5172   | 45         | NGC 5328   | 80, 81         | NGC 5488  | 80, 81         | NGC 5637   | 32, 44        | NGC 5797  | 10, 11, 20 |
| NGC 4464  | D3           | NGC 4603D | D19        | NGC 4730  | D19     | NGC 4890   | 57     | NGC 5028   | 69      | NGC 5173   | 20, 21     | NGC 5329   | 57             | NGC 5489  | 92, 93         | NGC 5638   | 56            | NGC 5798  | 32         |
| NGC 4467  | D3           | NGC 4605  | 11, 12     | NGC 4731  | 57, 69  | NGC 4893   | 21, 33 | NGC 5029   | 21      | NGC 5174   | 45         | NGC 5330   | 80, 81         | NGC 5490A | 44             | NGC 5641   | 32            | NGC 5799  | 109, 110   |
| NGC 4468  | D2           | NGC 4606  | D2         | NGC 4731A | 57, 69  | NGC 4895   | D24    | NGC 5030   | D12     | NGC 5176   | 45         | NGC 5331-1 | 57             | NGC 5490C | 44             | NGC 5642   | 32            | NGC 5804  | 10, 11, 20 |
| NGC 4469  | D3           | NGC 4607  | D2         | NGC 4733  | 45      | NGC 4897   | 69     | NGC 5032A  | 33      | NGC 5180   | 45         | NGC 5331-2 | 57             | NGC 5491A | 44, 56         | NGC 5643   | 92            | NGC 5806  | 56         |
| NGC 4470  | D3           | NGC 4608  | 45, D2, D3 | NGC 4734  | 57      | NGC 4898-1 | D24    | NGC 5033   | 21, 33  | NGC 5181   | 45         | NGC 5332   | 45             | NGC 5492  | 44             | NGC 5644   | 44            | NGC 5807  | 10, 11     |
| NGC 4473  | 45, D2       | NGC 4612  | D3         | NGC 4739  | 57, 69  | NGC 4898-2 | D24    | NGC 5034   | 4, 5    | NGC 5182   | 81         | NGC 5333   | 92, 93         | NGC 5493  | 56             | NGC 5645   | 44, 56        | NGC 5808  | 3, 4       |
| NGC 4474  | 45, D2       | NGC 4613  | 33         | NGC 4742  | 69      | NGC 4899   | 69     | NGC 5035   | D12     | NGC 5183   | 57         | NGC 5334   | 57             | NGC 5494  | 80, 81         | NGC 5649   | 44            | NGC 5810  | 68         |
| NGC 4476  | D2           | NGC 4614  | 33         | NGC 4743  | D19     | NGC 4900   | 57     | NGC 5037   | D12     | NGC 5184   | 57         | NGC 5336   | 20, 21         | NGC 5495  | 80             | NGC 5652   | 44, 56        | NGC 5812  | 56, 68     |
| NGC 4477  | 45, D2       | NGC 4615  | 33         | NGC 4744  | D19     | NGC 4902   | 69     | NGC 5042   | 69, 81  | NGC 5188   | 81         | NGC 5337   | 20, 21         | NGC 5496  | 56             | NGC 5653   | 32            | NGC 5813  | 56         |
| NGC 4478  | 45, D2       | NGC 4616  | D19        | NGC 4746  | 45      | NGC 4903   | 81     | NGC 5044   | 69, D12 | NGC 5190   | 45         | NGC 5338   | 57             | NGC 5498  | 32             | NGC 5654   | 20, 32        | NGC 5814  | 56         |
| NGC 4479  | D2           | NGC 4618  | 21         | NGC 4747  | 33      | NGC 4904   | 45     | NGC 5046   | D12     | NGC 5192   | 57         | NGC 5342   | 11             | NGC 5499  | 20, 21, 32, 33 | NGC 5655   | 44            | NGC 5820  | 10, 11     |
| NGC 4480  | D3           | NGC 4619  | 33         | NGC 4748  | 69      | NGC 4906   | D24    | NGC 5047   | D12     | NGC 5193   | 81         | NGC 5343   | 57, 69         | NGC 5500  | 20, 21         | NGC 5656   | 32            | NGC 5827  | 32         |
| NGC 4482  | D2           | NGC 4620  | D2         | NGC 4750  | 4, 5    | NGC 4907   | D24    | NGC 5048   | 81      | NGC 5193A  | 81         | NGC 5345   | 57             | NGC 5501  | 56             | NGC 5660   | 20, 21        | NGC 5828  | 10, 11, 20 |
| NGC 4483  | 45, 57, D3   | NGC 4622  | D19        | NGC 4751  | 93      | NGC 4908   | D24    | NGC 5049   | D12     | NGC 5195   | 20, 21     | NGC 5347   | 32, 33         | NGC 5504A | 44             | NGC 5661   | 44, 56        | NGC 5829  | 32, 44     |
| NGC 4485  | 21           | NGC 4622A | D19        | NGC 4753  | 57      | NGC 4909   | 93     | NGC 5051   | 81      | NGC 5198   | 20, 21     | NGC 5350   | 20, 21         | NGC 5505  | 44             | NGC 5665   | 44, 56        | NGC 5831  | 56         |
| NGC 4486A | D2           | NGC 4623  | D3         | NGC 4754  | 45      | NGC 4911   | D24    | NGC 5052   | 33      | NGC 5199   | 45         | NGC 5351   | 20, 21, 32, 33 | NGC 5506  | 56             | NGC 5665A  | 44, 56        | NGC 5832  | 3, 4       |
| NGC 4486B | D2           | NGC 4625  | 21         | NGC 4756  | 69      | NGC 4914   | 21, 33 | NGC 5054   | D12     | NGC 5201   | 11, 21     | NGC 5352   | 20, 21, 32, 33 | NGC 5507  | 56             | NGC 5666   | 44            | NGC 5833  | 109, 110   |
| NGC 4487  | 57, 69       | NGC 4626  | 57, 69     | NGC 4759A | 69      | NGC 4915   | 57     | NGC 5056   | 33      | NGC 5203   | 57, 69     | NGC 5353   | 20, 21         | NGC 5508  | 32             | NGC 5667   | 10, 11        | NGC 5837  | 44         |
| NGC 4488  | D3           | NGC 4627  | 33         | NGC 4760  | 69      | NGC 4920   | 69     | NGC 5057   | 33      | NGC 5204   | 11         | NGC 5354   | 20, 21         | NGC 5510  | 68             | NGC 5668   | 56            | NGC 5838  | 56         |
| NGC 4489  | 45, D2       | NGC 4629  | 57         | NGC 4761  | 57, 69  | NGC 4921   | 21     | NGC 5058   | 45      | NGC 5205   | 11         | NGC 5355   | 20, 21         | NGC 5511A | 44, 56         | NGC 5669   | 44            | NGC 5839  | 56         |
| NGC 4490  | 21           | NGC 4630  | D3         | NGC 4762  | 45      | NGC 4922-1 | 33     | NGC 5060   | 45, 57  | NGC 5206   | 92, 93     | NGC 5357   | 80, 81         | NGC 5512  | 32, 33         | NGC 5670   | 92            | NGC 5842  | 32, 44     |
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| NGC 4492  | D3           | NGC 4632  | 57         | NGC 4765  | 57      | NGC 4923   | D24    | NGC 5062-1 | 81, 93  | NGC 5210   | 45, 57     | NGC 5361   | 20, 21, 32, 33 | NGC 5514  | 44, 56         | NGC 5673   | 11, 20, 21    | NGC 5845  | 56         |
| NGC 4494  | 33           | NGC 4634  | D2         | NGC 4767  | 93      | NGC 4924   | 69     | NGC 5062-2 | 81, 93  | NGC 5211   | 57         | NGC 5362   | 20, 21         | NGC 5514A | 44, 56         | NGC 5674   | 56            | NGC 5846  | 56         |
| NGC 4495  | 33           | NGC 4635  | 45         | NGC 4767B | 93      | NGC 4925   | 57, 69 | NGC 5063   | 81      | NGC 5212   | 45, 57     | NGC 5363   | 57             | NGC 5515  | 20, 21         | NGC 5676   | 20, 21        | NGC 5846A | 56         |
| NGC 4496  | D3           | NGC 4636  | 57, D3     | NGC 4770  | 69      | NGC 4926   | D24    | NGC 5064   | 93      | NGC 5213   | 57         | NGC 5364   | 56, 57         | NGC 5516  | 92, 93         | NGC 5677   | 32            | NGC 5849  | 68         |
| NGC 4496B | D3           | NGC 4638  | 45, D2     | NGC 4771  | 57      | NGC 4927   | D24    | NGC 5065   | 33      | NGC 5214   | 21         | NGC 5365   | 92, 93         | NGC 5517  | 20, 21, 32, 33 | NGC 5678   | 10, 11        | NGC 5850  | 56         |
| NGC 4497  | D2           | NGC 4639  | D2         | NGC 4772  | 57      | NGC 4928   | 57, 69 | NGC 5066   | 69      | NGC 5215A  | 81         | NGC 5365A  | 92, 93         | NGC 5518  | 32, 44         | NGC 5679   | 56            | NGC 5852  | 44         |
| NGC 4498  | D2           | NGC 4640  | D2         | NGC 4774  | 21, 33  | NGC 4929   | D24    | NGC 5068   | 69, 81  | NGC 5215B  | 81         | NGC 5366   | 56, 57         | NGC 5520  | 20, 21         | NGC 5679A  | 56            | NGC 5854  | 56         |
| NGC 4499  | 93           | NGC 4641  | D2         | NGC 4775  | 57, 69  | NGC 4930   | 93     | NGC 5072   | 69      | NGC 5216   | 11         | NGC 5368   | 11             | NGC 5521  | 56             | NGC 5681   | 44, 56        | NGC 5855  | 56         |
| NGC 4500  | 11, 12       | NGC 4642  | 57         | NGC 4778  | 69      | NGC 4933A  | 69     | NGC 5074   | 33      | NGC 5216A  | 11         | NGC 5369   | 56, 57, 68, 69 | NGC 5523  | 32             | NGC 5684   | 20, 32        | NGC 5857  | 44         |
| NGC 4503  | 45, D2       | NGC 4643  | 57         | NGC 4779  | 45      | NGC 4933B  | 69     | NGC 5075   | 45, 57  | NGC 5217   | 11         | NGC 5370   | 11             | NGC 5525  | 44             | NGC 5685   | 32            | NGC 5858  | 68         |
| NGC 4504  | 57, 69       | NGC 4645  | D19        | NGC 4781  | 69      | NGC 4935   | 45     | NGC 5076   | 69      | NGC 5218   | 11         | NGC 5371   | 20, 21         | NGC 5529  | 20, 21, 32, 33 | NGC 5686   | 20, 32        | NGC 5859  | 44         |
| NGC 4506  | D2           | NGC 4645A | D19        | NGC 4782  | 69      | NGC 4936   | 81     | NGC 5077   | 69      | NGC 5220   | 81         | NGC 5372   | 11             | NGC 5530  | 92, 93         | NGC 5687   | 11            | NGC 5860  | 20         |
| NGC 4507  | 93           | NGC 4645B | D19        | NGC 4783  | 69      | NGC 4939   | 69     | NGC 5078   | 69      | NGC 5221   | 45         | NGC 5373   | 56, 57         | NGC 5531  | 44             | NGC 5688   | 92            | NGC 5861  | 68         |
| NGC 4509  | 33           | NGC 4646  | 11         | NGC 4785  | 93      | NGC 4940   | 93     | NGC 5079   | 69      | NGC 5222-1 | 45         | NGC 5374   | 44, 45, 56, 57 | NGC 5532  | 44             | NGC 5689   | 20, 21        | NGC 5863  | 68         |
| NGC 4510  | 4, 5, 11, 12 | NGC 4647  | 45         | NGC 4786  | 57, 69  | NGC 4941   | 57, 69 | NGC 5080   | 45, 57  | NGC 5223   | 33         | NGC 5376   | 11             | NGC 5533  | 20, 21, 32, 33 | NGC 5690   | 56            | NGC 5864  | 56         |
| NGC 4513  | 4, 5, 11, 12 | NGC 4648  | 4, 5       | NGC 4789  | 33      | NGC 4942   | 57, 69 | NGC 5082   | 93      | NGC 5224   | 45, 57     | NGC 5377   | 20, 21         | NGC 5534  | 56, 68         | NGC 5691   | 56            | NGC 5865  | 56         |
| NGC 4514  | 33           | NGC 4650  | D19        | NGC 4790  | 69      | NGC 4944   | 33     | NGC 5084   | 69, 81  | NGC 5225   | 11, 20, 21 | NGC 5378   | 20,            |           |                |            |               |           |            |



|            |                |            |          |           |                |            |               |           |               |            |                |           |                |          |          |            |               |           |                |
|------------|----------------|------------|----------|-----------|----------------|------------|---------------|-----------|---------------|------------|----------------|-----------|----------------|----------|----------|------------|---------------|-----------|----------------|
| NGC 5951   | 44             | NGC 6137A  | 19, 31   | NGC 6375  | 43             | NGC 6671   | 30            | NGC 6878  | 89, 90        | NGC 7053   | 29, 41         | NGC 7219  | 100            | NGC 7386 | 40       | NGC 7591   | 40, 52        | NGC 7745  | 28             |
| NGC 5952   | 56             | NGC 6138   | 19       | NGC 6379  | 43             | NGC 6672   | 18            | NGC 6878A | 89, 90        | NGC 7056   | 41             | NGC 7220  | 64, 76         | NGC 7391 | 52       | NGC 7592   | 52            | NGC 7746  | 52             |
| NGC 5953   | 44             | NGC 6140   | 3, 4, 10 | NGC 6381  | 9, 10          | NGC 6673   | 101, 102      | NGC 6880  | 108, 109      | NGC 7057   | 89             | NGC 7221  | 76, 77         | NGC 7392 | 64, 76   | NGC 7593   | 40            | NGC 7749  | 76             |
| NGC 5954   | 44             | NGC 6141   | 19, 20   | NGC 6384  | 43, 55         | NGC 6674   | 30            | NGC 6887  | 89, 101       | NGC 7059   | 100, 101       | NGC 7223  | 16, 17         | NGC 7393 | 52, 64   | NGC 7597   | 40            | NGC 7750  | 52             |
| NGC 5956   | 44             | NGC 6143   | 10       | NGC 6385  | 9, 10          | NGC 6675   | 18            | NGC 6889  | 101           | NGC 7060   | 89             | NGC 7225  | 76             | NGC 7398 | 52       | NGC 7599   | 88            | NGC 7751  | 40, 52         |
| NGC 5957   | 44             | NGC 6146   | 19, 20   | NGC 6389  | 43             | NGC 6677   | 3, 9          | NGC 6890  | 89, 90        | NGC 7061   | 88, 89         | NGC 7229  | 76             | NGC 7399 | 64       | NGC 7600   | 52, 64        | NGC 7752  | 28, 39         |
| NGC 5958   | 32             | NGC 6149   | 43       | NGC 6392  | 109            | NGC 6684   | 101, 102, 109 | NGC 6893  | 89, 90        | NGC 7064   | 89, 100        | NGC 7231  | 16, 17         | NGC 7404 | 88       | NGC 7601   | 40, 52        | NGC 7753  | 28, 39         |
| NGC 5961   | 32             | NGC 6154   | 19, 20   | NGC 6395  | 3, 4           | NGC 6684A  | 101, 102      | NGC 6898  | 65            | NGC 7065   | 53, 65         | NGC 7232  | 88, 89         | NGC 7408 | 100      | NGC 7602   | 40            | NGC 7755  | 76, 87         |
| NGC 5962   | 44             | NGC 6155   | 19, 20   | NGC 6398  | 101, 102       | NGC 6685   | 18            | NGC 6899  | 89, 90, 101   | NGC 7065A  | 53, 65         | NGC 7232B | 88, 89         | NGC 7410 | 88       | NGC 7603   | 52            | NGC 7757  | 52             |
| NGC 5963   | 10             | NGC 6156   | 102      | NGC 6403  | 101, 102       | NGC 6688   | 18, 30        | NGC 6900  | 53            | NGC 7068   | 41             | NGC 7233  | 88, 89         | NGC 7411 | 40       | NGC 7604   | 40, 52        | NGC 7759  | 64             |
| NGC 5965-1 | 10             | NGC 6158   | 19       | NGC 6407  | 101, 102       | NGC 6689   | 2, 3          | NGC 6902  | 89, 90        | NGC 7069   | 53             | NGC 7236  | 40             | NGC 7412 | 88       | NGC 7606   | 52, 64        | NGC 7760  | 28, 39         |
| NGC 5966   | 20             | NGC 6160   | 19       | NGC 6408  | 43             | NGC 6691   | 9             | NGC 6902B | 89, 90        | NGC 7070   | 89             | NGC 7237  | 40             | NGC 7416 | 52, 64   | NGC 7609   | 40            | NGC 7761  | 64             |
| NGC 5967   | 109, 110       | NGC 6162   | 31       | NGC 6409  | 10, 18, 19     | NGC 6692   | 30            | NGC 6903  | 65            | NGC 7070A  | 89             | NGC 7240  | 16, 17, 28, 29 | NGC 7417 | 100, 108 | NGC 7610   | 40            | NGC 7764  | 88, 99         |
| NGC 5967A  | 109, 110       | NGC 6166   | 19       | NGC 6411  | 9, 10          | NGC 6695   | 18            | NGC 6906  | 41, 53        | NGC 7072   | 89             | NGC 7242  | 16, 17, 28, 29 | NGC 7418 | 76, 88   | NGC 7611   | 40, 52        | NGC 7768  | 28, 39         |
| NGC 5968   | 80             | NGC 6166C  | 19       | NGC 6412  | 2, 3, 4        | NGC 6697   | 30            | NGC 6907  | 77            | NGC 7072A  | 89             | NGC 7244  | 40             | NGC 7421 | 76, 88   | NGC 7612   | 40, 52        | NGC 7769  | 40             |
| NGC 5970   | 44             | NGC 6170   | 10       | NGC 6417  | 31, 43         | NGC 6699   | 101           | NGC 6909  | 89, 90        | NGC 7073   | 65             | NGC 7247  | 64, 76         | NGC 7422 | 52       | NGC 7617   | 40, 52        | NGC 7770  | 40             |
| NGC 5972   | 44             | NGC 6172   | 55       | NGC 6418  | 9, 10          | NGC 6700   | 30            | NGC 6912  | 65            | NGC 7075   | 77, 89         | NGC 7248  | 16, 17         | NGC 7424 | 88       | NGC 7618   | 16            | NGC 7771  | 40             |
| NGC 5974   | 32             | NGC 6173   | 19       | NGC 6434  | 3, 4           | NGC 6701   | 9, 10         | NGC 6915  | 53            | NGC 7077   | 53             | NGC 7249  | 100            | NGC 7426 | 16, 28   | NGC 7619   | 40, 52        | NGC 7773  | 28, 39         |
| NGC 5978   | 68             | NGC 6174   | 19       | NGC 6435  | 9, 10          | NGC 6702   | 18            | NGC 6917  | 41, 53        | NGC 7079   | 88, 89         | NGC 7250  | 16, 17         | NGC 7428 | 52       | NGC 7620   | 28, 40        | NGC 7774  | 40             |
| NGC 5980   | 44             | NGC 6175-2 | 19       | NGC 6438  | 114            | NGC 6703   | 18            | NGC 6918  | 89, 90        | NGC 7080   | 29             | NGC 7251  | 64             | NGC 7436 | 28       | NGC 7622   | 100, 107      | NGC 7775  | 28, 39         |
| NGC 5981   | 10, 11         | NGC 6181   | 43       | NGC 6438A | 114            | NGC 6706   | 101, 102      | NGC 6919  | 89            | NGC 7081   | 53             | NGC 7252  | 76             | NGC 7440 | 28       | NGC 7623   | 40, 52        | NGC 7777  | 28, 39         |
| NGC 5982   | 10, 11         | NGC 6183   | 109, 110 | NGC 6447  | 18, 19, 30, 31 | NGC 6707   | 90, 101       | NGC 6920  | 108, 109, 114 | NGC 7083   | 100, 101       | NGC 7256  | 64, 76         | NGC 7442 | 40       | NGC 7624   | 28            | NGC 7778  | 40, 52         |
| NGC 5983   | 44, 56         | NGC 6185   | 31       | NGC 6449  | 9, 10          | NGC 6708   | 90, 101       | NGC 6921  | 29            | NGC 7087   | 89             | NGC 7257  | 52             | NGC 7443 | 64       | NGC 7625   | 40            | NGC 7779  | 40, 52         |
| NGC 5984   | 44             | NGC 6186   | 31, 43   | NGC 6452  | 31, 43         | NGC 6710   | 30            | NGC 6922  | 53            | NGC 7090   | 100            | NGC 7258  | 76             | NGC 7444 | 64       | NGC 7626   | 40, 52        | NGC 7782  | 40, 52         |
| NGC 5985   | 10, 11         | NGC 6187   | 10       | NGC 6454  | 9, 10          | NGC 6711   | 18            | NGC 6923  | 77            | NGC 7091   | 77, 89         | NGC 7259  | 76             | NGC 7448 | 40       | NGC 7628   | 28            | NGC 7783A | 52             |
| NGC 5987   | 10             | NGC 6189   | 10       | NGC 6462  | 9, 10          | NGC 6713   | 30            | NGC 6924  | 77            | NGC 7095   | 108, 114       | NGC 7262  | 76             | NGC 7450 | 64       | NGC 7629   | 52            | NGC 7783B | 52             |
| NGC 5989   | 10, 11         | NGC 6190   | 10       | NGC 6463  | 3, 10          | NGC 6718   | 101, 109      | NGC 6925  | 77            | NGC 7096   | 100, 101       | NGC 7265  | 16, 28         | NGC 7454 | 40       | NGC 7631   | 40, 52        | NGC 7784  | 28, 39, 40, 51 |
| NGC 5990   | 56             | NGC 6194   | 19, 31   | NGC 6466  | 9, 10, 18, 19  | NGC 6719   | 101, 108, 109 | NGC 6926  | 53            | NGC 7097   | 88, 89         | NGC 7266  | 52             | NGC 7456 | 88       | NGC 7632   | 88            | NGC 7785  | 40, 52         |
| NGC 5992   | 19, 20         | NGC 6195   | 19, 31   | NGC 6478  | 9, 10, 18, 19  | NGC 6721   | 101           | NGC 6928  | 41            | NGC 7097A  | 88, 89         | NGC 7267  | 76             | NGC 7457 | 28       | NGC 7633   | 100, 108, 113 | NGC 7786  | 28, 39, 40, 51 |
| NGC 5993   | 19, 20         | NGC 6196   | 19, 31   | NGC 6479  | 9, 10          | NGC 6725   | 90, 101       | NGC 6929  | 53            | NGC 7098   | 108, 109, 113  | NGC 7268  | 76             | NGC 7458 | 52       | NGC 7634   | 40, 52        | NGC 7793  | 76, 87         |
| NGC 5995   | 68             | NGC 6198   | 10       | NGC 6482  | 30, 31, 42, 43 | NGC 6730   | 101, 108, 109 | NGC 6930  | 41            | NGC 7101   | 41, 53         | NGC 7269  | 64             | NGC 7460 | 52       | NGC 7636   | 76            | NGC 7794  | 40, 51         |
| NGC 5996   | 44             | NGC 6201   | 31, 43   | NGC 6483  | 101, 102       | NGC 6732-1 | 9, 18         | NGC 6931  | 65            | NGC 7102   | 41, 53         | NGC 7272  | 40             | NGC 7461 | 40       | NGC 7637   | 108, 113, 114 | NGC 7796  | 100, 107       |
| NGC 5997   | 44, 56         | NGC 6203   | 31, 43   | NGC 6484  | 30, 31         | NGC 6732-2 | 9, 18         | NGC 6932  | 108, 109      | NGC 7103   | 65, 77         | NGC 7273  | 16, 28         | NGC 7462 | 88       | NGC 7640   | 16            | NGC 7797  | 52, 63         |
| NGC 6000   | 79, 80         | NGC 6206   | 10       | NGC 6485  | 30, 31         | NGC 6733   | 101           | NGC 6935  | 89, 101       | NGC 7104   | 65, 77         | NGC 7274  | 16, 28         | NGC 7463 | 52       | NGC 7642   | 100           | NGC 7798  | 28, 39, 40, 51 |
| NGC 6001   | 31, 32         | NGC 6207   | 19, 31   | NGC 6487  | 30, 31         | NGC 6734   | 101, 109      | NGC 6936  | 77            | NGC 7105   | 65             | NGC 7276  | 16, 28         | NGC 7464 | 40       | NGC 7643   | 40            | NGC 7800  | 40, 51         |
| NGC 6003   | 44             | NGC 6209   | 109, 110 | NGC 6490  | 42, 43         | NGC 6736   | 101, 109      | NGC 6937  | 89, 101       | NGC 7106   | 89, 100        | NGC 7277  | 76             | NGC 7465 | 40       | NGC 7645   | 76            | NGC 7802  | 40, 51, 52, 63 |
| NGC 6004   | 44             | NGC 6211   | 10       | NGC 6492  | 101, 102, 109  | NGC 6739   | 101           | NGC 6941  | 53            | NGC 7107   | 88, 89         | NGC 7279  | 76             | NGC 7467 | 40       | NGC 7646   | 64            | NGC 7803  | 40, 51         |
| NGC 6006   | 44             | NGC 6212   | 19       | NGC 6495  | 42, 43         | NGC 6744   | 101           | NGC 6942  | 100, 101      | NGC 7109   | 77             | NGC 7280  | 40             | NGC 7468 | 40       | NGC 7648   | 40            | NGC 7805  | 28, 39         |
| NGC 6007   | 44             | NGC 6214   | 3, 4, 10 | NGC 6497  | 9, 10          | NGC 6745-2 | 18            | NGC 6943  | 108, 109      | NGC 7110   | 77             | NGC 7284  | 76             | NGC 7469 | 40, 52   | NGC 7650   | 100           | NGC 7806  | 28, 39         |
| NGC 6008A  | 31, 32, 43, 44 | NGC 6215   | 102      | NGC 6500  | 42, 43         | NGC 6746   | 101           | NGC 6944  | 41, 53        | NGC 7115   | 77             | NGC 7285  | 76             | NGC 7470 | 88, 100  | NGC 7652   | 100, 107      | NGC 7808  | 64, 75         |
| NGC 6010   | 56             | NGC 6215A  | 102      | NGC 6501  | 42, 43         | NGC 6747   | 2, 3          | NGC 6944A | 41, 53        | NGC 7116   | 29             | NGC 7286  | 28             | NGC 7473 | 28       | NGC 7653   | 40            | NGC 7810  | 40, 51         |
| NGC 6011   | 3, 4           | NGC 6217   | 3, 4     | NGC 6502  | 101, 102       | NGC 6750   | 9             | NGC 6945  | 53            | NGC 7117   | 88, 89         | NGC 7289  | 76, 88         | NGC 7474 | 40       | NGC 7655   | 100, 108, 113 | NGC 7811  | 52, 63         |
| NGC 6012   | 43, 44         | NGC 6219   | 43, 55   | NGC 6503  | 3              | NGC 6753   | 101           | NGC 6946  | 8, 9          | NGC 7118   | 88, 89         | NGC 7290  | 40             | NGC 7476 | 88       | NGC 7656   | 64            | NGC 7812  | 76, 87         |
| NGC 6014   | 44, 56         | NGC 6221   | 102      | NGC 6504  | 30, 31         | NGC 6754   | 90, 101       | NGC 6948  | 89, 100, 101  | NGC 7119-1 | 88, 89         | NGC 7292  | 28             | NGC 7479 | 40       | NGC 7658-2 | 88            | NGC 7814  | 40, 51         |
| NGC 6015   | 3, 10, 11      | NGC 6223   | 10       | NGC 6508  | 3, 4           | NGC 6757   | 9             | NGC 6949  | 2, 3, 8, 9    | NGC 7119-2 | 88, 89         | NGC 7294  | 76             | NGC 7482 | 52       | NGC 7660   | 28            | NGC 7816  | 40, 51, 52, 63 |
| NGC 6017   | 43, 44, 55, 56 | NGC 6224   | 43, 55   | NGC 6509  | 42, 43, 54, 55 | NGC 6758   | 101           | NGC 6951  | 2, 3, 8, 9    | NGC 7123   | 108            | NGC 7297  | 76, 88         | NGC 7483 | 52       | NGC 7664   | 28            | NGC 7817  | 28, 39, 40, 51 |
| NGC 6018   | 43, 44         | NGC 6225   | 43, 55   | NGC 6511  | 9, 10          | NGC 6761   | 90, 101       | NGC 6954  | 53            | NGC 7124   | 88, 89, 100    | NGC 7298  | 64             | NGC 7484 | 76, 88   | NGC 7665   | 64            | NGC 7819  | 28, 39         |
| NGC 6019   | 3, 4, 10, 11   | NGC 6226   | 9, 10    | NGC 6512  | 9, 10          | NGC 6762   | 9, 18         | NGC 6956  | 41            | NGC 7125   | 100            | NGC 7299  | 76, 88         | NGC 7485 | 28       | NGC 7671   | 40            | NGC 7820  | 63             |
| NGC 6020   | 31, 32, 43, 44 | NGC 6232   | 3, 4     | NGC 6513  | 30, 31         | NGC 6768-1 | 90            | NGC 6957  | 53            | NGC 7126   | 100            | NGC 7300  | 64             | NGC 7488 | 52       | NGC 7672   | 40            | NGC 7821  | 64, 75         |
| NGC 6021   | 43, 44         | NGC 6234   | 55       | NGC 6515  | 9, 10, 18, 19  | NGC 6768-2 | 90            | NGC 6958  | 77, 89        | NGC 7130   | 76, 77, 88, 89 | NGC 7301  | 64             | NGC 7490 | 28       | NGC 7673   | 28, 40        | NGC 7823  | 100, 107, 108  |
| NGC 6023   | 43, 44         | NGC 6236   | 3, 4     | NGC 6518  | 30, 31         | NGC 6769   | 101           | NGC 6959  | 53            | NGC 7135   | 76, 77, 88, 89 | NGC 7302  | 64             | NGC 7491 | 52, 64   | NGC 7674   | 40, 52        | NGC 7825  | 63             |
| NGC 6027A  | 31, 32, 43, 44 | NGC 6238   | 10       | NGC 6521  | 9, 10          | NGC 6770   | 101           | NGC 6961  | 53            | NGC 7137   | 29, 41         | NGC 7303  | 28             | NGC 7495 | 40       | NGC 7674A  | 100, 102      | NGC 7829  | 75             |
| NGC 6027B  | 31, 32, 43, 44 | NGC 6239   | 19       | NGC 6524  | 18, 19         | NGC 6771   | 101           | NGC 6962  | 53            | NGC 7140   | 100            | NGC 7305  | 40             | NGC 7496 | 88       | NGC 7676   | 40            | NGC 7831  | 28, 39         |
| NGC 6027E  | 31, 32, 43, 44 | NGC 6240   | 55       | NGC 6536  | 9, 10          | NGC 6776   | 101, 109      | NGC 6964  | 53            | NGC 7144   | 88, 89         | NGC 7306  | 76             | NGC 7499 | 40, 52   | NGC 7677   | 28, 40        | NGC 7832  | 63             |
| NGC 6030   | 43, 44         | NGC 6247   | 10       | NGC 6538  | 2, 3, 4        | NGC 6780   | 101           | NGC 6965  | 53            | NGC 7145   | 88, 89         | NGC 7307  | 88             | NGC 7501 | 40, 52   | NGC 7678   | 28, 40        | NGC 7836  | 28, 39         |
| NGC 6034   | 43, 44         | NGC 6251   | 1, 3, 4  | NGC 6542  | 9, 10          | NGC 6782   | 101           | NGC 6967  | 53            | NGC 7147   | 53             | NGC 7308  | 64             | NGC 7503 | 4        |            |               |           |                |



|            |                |          |                |           |         |           |            |           |                |           |            |           |            |            |                |            |                |           |                |
|------------|----------------|----------|----------------|-----------|---------|-----------|------------|-----------|----------------|-----------|------------|-----------|------------|------------|----------------|------------|----------------|-----------|----------------|
| PGC 93963  | 107, 113       | UGC 248A | 39             | UGC 2292  | 62      | UGC 3863  | 23, 24     | UGC 4912  | 35             | UGC 6073  | 46         | UGC 7487  | 57         | UGC 9603A  | 32             | UGC 11397  | 30             | UGCA 102  | 61             |
| PGC 94045  | 33             | UGC 260  | 51             | UGC 2295  | 62      | UGC 3885  | 13         | UGC 4927  | 12, 23         | UGC 6074  | 12, 22     | UGC 7577  | 21, 22     | UGC 9618A  | 32             | UGC 11404  | 30             | UGCA 104  | 73             |
| PGC 94053  | 33             | UGC 295  | 63             | UGC 2296  | 50      | UGC 3894  | 5, 6, 13   | UGC 4940  | 35             | UGC 6100  | 22         | UGC 7580  | 03         | UGC 9623   | 20, 32         | UGC 11411  | 2, 3           | UGCA 105  | 13, 14         |
| PGC 94064  | 63             | UGC 312  | 51, 63         | UGC 2311  | 62      | UGC 3897  | 13         | UGC 4950  | 23, 35         | UGC 6103  | 22         | UGC 7593A | 21, 22     | UGC 9640   | 44             | UGC 11426  | 30             | UGCA 112  | 73, 85         |
| PGC 94648  | 32, 33         | UGC 364  | 39, 51         | UGC 2324  | 62      | UGC 3905  | 5, 13      | UGC 4956  | 59             | UGC 6107  | 22, 34     | UGC 7593B | 21, 22     | UGC 9650   | 1, 4           | UGC 11428  | 30             | UGCA 114  | 73             |
| PGC 94860  | 100, 107, 108  | UGC 375  | 39             | UGC 2328  | 26, 38  | UGC 3933  | 23, 24     | UGC 4972  | 35             | UGC 6117  | 22         | UGC 7635  | 11         | UGC 9660   | 20             | UGC 11453  | 9, 18          | UGCA 128  | 72             |
| PGC 94872  | 100, 107       | UGC 411  | 39             | UGC 2430  | 50      | UGC 3936  | 48         | UGC 4974  | 35             | UGC 6119  | 58         | UGC 7678  | 21         | UGC 9668   | 1, 4           | UGC 11455  | 2, 3           | UGCA 150  | 59, 71         |
| PGC 94961  | 98, 106        | UGC 425  | 39, 51         | UGC 2441  | 62      | UGC 3957  | 13         | UGC 4982  | 23             | UGC 6127  | 22         | UGC 7690  | 21         | UGC 9696   | 44, 56         | UGC 11460  | 17, 18         | UGCA 154  | 12, 13, 23     |
| PGC 94963  | 106            | UGC 439  | 63             | UGC 2446  | 62      | UGC 3972  | 5, 6       | UGC 4991A | 35, 47         | UGC 6135  | 22         | UGC 7691  | 11, 12     | UGC 9705   | 32             | UGC 11465  | 17, 18         | UGCA 167  | 71             |
| PGC 94977  | 97, 98, 106    | UGC 444  | 27, 39         | UGC 2456  | 26, 38  | UGC 3973  | 23, 24     | UGC 5023  | 47             | UGC 6137  | 46         | UGC 7739  | 03         | UGC 9737   | 10, 11         | UGC 11503  | 17, 18         | UGCA 173  | 59, 71         |
| PGC 94982  | 89, 100, 101   | UGC 480  | 27, 39         | UGC 2486  | 50      | UGC 3981  | 13         | UGC 5026  | 23             | UGC 6142  | 58         | UGC 7755A | 57         | UGC 9749   | 3, 4, 10, 11   | UGC 11512  | 41, 42         | UGCA 175  | 59, 71         |
| PGC 94993  | 100            | UGC 486  | 15, 27         | UGC 2494  | 26, 38  | UGC 3993  | 1          | UGC 5028  | 5, 12          | UGC 6142A | 58         | UGC 7761  | 4, 5       | UGC 9761   | 20             | UGC 11524  | 41, 53         | UGCA 196  | 82, 83         |
| PGC 94997  | 88, 100        | UGC 492  | 63             | UGC 2585  | 62      | UGC 3995  | 36         | UGC 5045  | 23             | UGC 6160  | 34         | UGC 7767  | 4, 5       | UGC 9796   | 20             | UGC 11566  | 53             | UGCA 201  | 34, 35         |
| PGC 95006  | 100, 107       | UGC 496  | 63             | UGC 2594  | 62      | UGC 4001  | 5, 13      | UGC 5046  | 47             | UGC 6173  | 34, 46     | UGC 7798  | 57         | UGC 9837   | 10, 11         | UGC 11639  | 41, 53         | UGCA 205  | 58             |
| PGC 95053  | 88, 100        | UGC 540  | 39             | UGC 2608  | 26      | UGC 4013  | 13         | UGC 5050  | 5, 6           | UGC 6175A | 46         | UGC 7812  | 33         | UGC 9874   | 3, 4           | UGC 11657  | 53             | UGCA 208  | 22, 23         |
| PGC 95057  | 88, 99         | UGC 545  | 51             | UGC 2688  | 020     | UGC 4028  | 5, 6       | UGC 5055  | 12             | UGC 6175B | 46         | UGC 7813  | 57         | UGC 9896   | 3, 4, 10       | UGC 11658  | 53             | UGCA 241  | 70             |
| PGC 95058  | 88, 99         | UGC 579  | 63             | UGC 2692  | 62      | UGC 4030  | 35, 36     | UGC 5068  | 1, 5           | UGC 6182  | 12, 22     | UGC 7841  | 57         | UGC 9897   | 44             | UGC 11671  | 41             | UGCA 244  | 21, 22, 33, 34 |
| PGC 95063  | 88, 99         | UGC 583  | 63             | UGC 2698  | 26      | UGC 4035  | 13         | UGC 5097  | 59             | UGC 6187  | 22         | UGC 7890  | 33         | UGC 9924   | 19, 20         | UGC 11680B | 53             | UGCA 247  | 81, 82         |
| PGC 95147  | 98             | UGC 588  | 63             | UGC 2704  | 62      | UGC 4041  | 5, 6       | UGC 5119  | 23, 35         | UGC 6198  | 34         | UGC 7905B | 11         | UGC 9945   | 56             | UGC 11698  | 41             | UGCA 272  | 4, 5, 11, 12   |
| PGC 95212  | 87, 99         | UGC 599  | 63             | UGC 2783  | 26      | UGC 4050  | 5, 6       | UGC 5123  | 47             | UGC 6201  | 22         | UGC 7909B | 57         | UGC 9959   | 19, 20         | UGC 11700  | 41             | UGCA 281  | 21, 22         |
| PGC 95261  | 76             | UGC 612  | 39, 51         | UGC 2812  | 62      | UGC 4051  | 23, 24     | UGC 5139  | 5, 6           | UGC 6204  | 34, 46     | UGC 7912  | 57         | UGC 9977   | 56             | UGC 11761  | 29             | UGCA 284  | 03             |
| PGC 95264  | 76             | UGC 615  | 51             | UGC 2818  | 25, 26  | UGC 4052  | 23, 24     | UGC 5146A | 35             | UGC 6206  | 46         | UGC 7934  | 33         | UGC 9999   | 32             | UGC 11762  | 29             | UGCA 290  | 21, 33         |
| PGC 95267  | 76, 87, 88, 99 | UGC 622  | 27             | UGC 2836  | 25, 26  | UGC 4057  | 5, 6       | UGC 5146B | 35             | UGC 6212  | 58         | UGC 8012  | 11, 21     | UGC 10012  | 19, 20, 31, 32 | UGC 11775  | 29             | UGCA 294  | 33             |
| PGC 95318  | 76, 77         | UGC 644  | 51             | UGC 2883  | 62      | UGC 4060  | 48         | UGC 5151  | 22, 23         | UGC 6224A | 026        | UGC 8041  | 57         | UGC 10046  | 56             | UGC 11781  | 17, 29         | UGCA 296  | 4, 5           |
| PGC 95380  | 100            | UGC 717  | 51             | UGC 2998  | 61      | UGC 4074  | 13         | UGC 5187  | 22, 23         | UGC 6227  | 22         | UGC 8069  | 33         | UGC 10053  | 3, 4           | UGC 11814  | 53             | UGCA 320  | 69             |
| PGC 95408  | 100            | UGC 724  | 39, 011        | UGC 3008  | 61      | UGC 4079  | 13         | UGC 5188  | 5, 12, 13      | UGC 6233  | 46, 58     | UGC 8111B | 21, 33     | UGC 10054  | 1, 3, 4        | UGC 11834  | 28, 29         | UGCA 324  | 81             |
| PGC 95420  | 88, 99         | UGC 838  | 51             | UGC 3014  | 61      | UGC 4080  | 5, 6       | UGC 5189A | 47             | UGC 6253  | 34, 46     | UGC 8225  | 21         | UGC 10115  | 3, 4, 10, 11   | UGC 11865  | 40, 41         | UGCA 332  | 69             |
| PGC 95431  | 99             | UGC 849  | 51             | UGC 3053  | 37, 49  | UGC 4085  | 13, 23, 24 | UGC 5204  | 47             | UGC 6255  | 22         | UGC 8234  | 11         | UGC 10144  | 43, 44         | UGC 11892  | 16, 17, 28, 29 | UGCA 334  | 81             |
| PGC 95455  | 76, 87, 88, 99 | UGC 878  | 014            | UGC 3070  | 61      | UGC 4090  | 47, 48     | UGC 5213  | 47             | UGC 6274  | 34         | UGC 8237  | 11         | UGC 10151  | 31, 32         | UGC 11908  | 40             | UGCA 348  | 69, 81         |
| PGC 95464  | 87             | UGC 901  | 39             | UGC 3087  | 61      | UGC 4095  | 5, 6, 13   | UGC 5225  | 22, 23         | UGC 6289  | 58         | UGC 8255  | 45         | UGC 10152B | 19, 20         | UGC 11909  | 16, 17         | UGCA 378  | 80, 81         |
| PGC 95470  | 86, 87         | UGC 913  | 39             | UGC 3134  | 61      | UGC 4107  | 23, 24     | UGC 5232  | 47             | UGC 6296  | 46         | UGC 8262  | 57         | UGC 10187A | 43, 44         | UGC 11920  | 16, 17         | UGCA 382  | 80, 81         |
| PGC 95495  | 76, 77         | UGC 937  | 39             | UGC 3137  | 6, 7    | UGC 4128  | 13         | UGC 5270  | 47, 59         | UGC 6309  | 12, 21, 22 | UGC 8303  | 21, 33     | UGC 10200  | 19, 20         | UGC 11929  | 16, 17         | UGCA 410  | 10             |
| PGC 100170 | 14, 15         | UGC 959  | 39             | UGC 3192  | 61      | UGC 4132  | 35, 36     | UGC 5273A | 22, 23         | UGC 6316  | 4, 11, 12  | UGC 8323  | 33         | UGC 10204  | 43             | UGC 11946  | 16, 17         | UGCA 412  | 10, 19, 20     |
| PGC 101218 | 88, 89         | UGC 1032 | 51             | UGC 3223  | 61      | UGC 4145  | 47, 48     | UGC 5273C | 22, 23         | UGC 6320  | 46         | UGC 8327A | 21         | UGC 10214  | 10             | UGC 11950  | 16, 17, 28     | UGCA 432  | 52, 64         |
| PGC 101304 | 14, 15         | UGC 1041 | 51             | UGC 3230  | 6, 7    | UGC 4151  | 5, 6       | UGC 5288  | 47, 59         | UGC 6332  | 34, 46     | UGC 8335  | 11         | UGC 10285A | 31, 32         | UGC 12009  | 16, 28         | UGCA 441  | 28             |
| PGC 127188 | 112, 113       | UGC 1062 | 63             | UGC 3253  | 1, 6    | UGC 4159  | 5, 12      | UGC 5336  | 5, 12          | UGC 6388A | 34, 46     | UGC 8335A | 11         | UGC 10287  | 43             | UGC 12011B | 28             | UGCA 444  | 64, 75         |
| PGC 127689 | 100, 108       | UGC 1068 | 26, 27         | UGC 3258  | 61      | UGC 4169  | 13         | UGC 5339A | 34, 35, 46, 47 | UGC 6393  | 34         | UGC 8397  | 33         | UGC 10288  | 55             | UGC 12016  | 16, 17         | Willman 1 | 12, 22         |
| PGC 127971 | 106, 107       | UGC 1095 | 39             | UGC 3271  | 61      | UGC 4170  | 47, 48     | UGC 5342  | 46, 47         | UGC 6394  | 34         | UGC 8399  | 33         | UGC 10310  | 19, 20         | UGC 12066A | 40             |           |                |
| PGC 127986 | 106, 107       | UGC 1125 | 39             | UGC 3302  | 6, 7    | UGC 4200  | 23, 24     | UGC 5364  | 34, 35         | UGC 6452  | 11, 12     | UGC 8452  | 45         | UGC 10325  | 19, 20         | UGC 12074  | 40, 52         |           |                |
| PGC 127992 | 106, 107       | UGC 1154 | 39             | UGC 3307  | 13, 14  | UGC 4203  | 59         | UGC 5373  | 58, 59         | UGC 6465  | 34, 46     | UGC 8454  | 1          | UGC 10339  | 55             | UGC 12127  | 28             |           |                |
| PGC 127996 | 106            | UGC 1155 | 63             | UGC 3349  | 6       | UGC 4228  | 59         | UGC 5378  | 58, 59         | UGC 6469  | 58         | UGC 8498  | 33         | UGC 10367  | 19, 20         | UGC 12137  | 16, 28         |           |                |
| PGC 128167 | 100, 101       | UGC 1166 | 39             | UGC 3373  | 5, 6, 7 | UGC 4229  | 23, 24     | UGC 5382  | 22, 23, 34, 35 | UGC 6479  | 34, 46     | UGC 8521  | 57         | UGC 10396  | 10, 19, 20     | UGC 12138  | 40, 52         |           |                |
| PGC 128214 | 100, 101       | UGC 1169 | 63             | UGC 3374  | 24, 25  | UGC 4238  | 5, 6       | UGC 5383  | 58, 59         | UGC 6496  | 34         | UGC 8526  | 57         | UGC 10407  | 19             | UGC 12163  | 40, 52         |           |                |
| PGC 128256 | 100            | UGC 1212 | 26, 38, 39     | UGC 3379  | 6       | UGC 4263  | 5, 6       | UGC 5400  | 46, 47         | UGC 6510  | 58         | UGC 8548  | 33         | UGC 10418  | 3, 4           | UGC 12173  | 16, 28         |           |                |
| PGC 128348 | 100, 107       | UGC 1219 | 51             | UGC 3386  | 13, 14  | UGC 4267  | 13         | UGC 5408  | 12             | UGC 6514A | 4, 5       | UGC 8560  | 33         | UGC 10445  | 31             | UGC 12178  | 40, 52         |           |                |
| PGC 129313 | 98, 99         | UGC 1272 | 26, 38, 39     | UGC 3414  | 13, 14  | UGC 4289  | 13         | UGC 5420  | 34, 35, 46, 47 | UGC 6514C | 4, 5       | UGC 8561  | 33         | UGC 10486  | 19, 20         | UGC 12179  | 28             |           |                |
| PGC 129350 | 98, 99, 107    | UGC 1281 | 38, 39         | UGC 3426  | 5, 6    | UGC 4292  | 5, 6       | UGC 5423  | 5              | UGC 6517  | 22, 34     | UGC 8610  | 45, 57     | UGC 10491A | 19             | UGC 12181  | 16, 28         |           |                |
| PGC 129443 | 98, 106, 107   | UGC 1308 | 018            | UGC 3431  | 5, 6, 7 | UGC 4305  | 5, 6       | UGC 5435  | 12             | UGC 6520  | 11, 12     | UGC 8613  | 45, 57     | UGC 10493  | 10             | UGC 12188  | 16             |           |                |
| PGC 129660 | 97, 106        | UGC 1319 | 018            | UGC 3445  | 13, 14  | UGC 4308  | 35, 47     | UGC 5436  | 46, 47         | UGC 6527  | 12, 22     | UGC 8658  | 11         | UGC 10510  | 10             | UGC 12200  | 40             |           |                |
| PGC 130281 | 97, 98         | UGC 1344 | 018            | UGC 3446  | 13, 14  | UGC 4326  | 5, 6, 13   | UGC 5460  | 12, 22, 23     | UGC 6527B | 12, 22     | UGC 8663  | 57         | UGC 10528  | 31, 43         | UGC 12214  | 40             |           |                |
| PGC 130497 | 97             | UGC 1347 | 018            | UGC 3471  | 5, 6, 7 | UGC 4346  | 35         | UGC 5467  | 46             | UGC 6528  | 11, 12     | UGC 8671  | 11         | UGC 10566  | 19, 31         | UGC 12234  | 28             |           |                |
| PGC 130498 | 97             | UGC 1353 | 018            | UGC 3478  | 13, 14  | UGC 4375  | 35, 47     | UGC 5470  | 46             | UGC 6534  | 4, 11, 12  | UGC 8685  | 33         | UGC 10567  | 19, 31         | UGC 12238  | 28             |           |                |
| PGC 130643 | 88, 89         | UGC 1359 | 38, 39         | UGC 3506  | 24, 25  | UGC 4393  | 23, 24     | UGC 5476  | 22, 23         | UGC 6552  | 4, 5       | UGC 8714  | 11         | UGC 10579  | 10, 19         | UGC 12242  | 28             |           |                |
| PGC 130710 | 88, 89         | UGC 1385 | 018            | UGC 3511  | 13, 14  | UGC 4414  | 35, 47     | UGC 5477  | 46             | UGC 6568  | 58         | UGC 8715  | 32, 33     | UGC 10590  | 10             | UGC 12265  | 40             |           |                |
| PGC 131020 | 99             | UGC 1400 | 018            | UGC 3528A | 1       | UGC 4417  | 13         | UGC 5501  | 58             | UGC 6570  | 34         | UGC 8718  | 32, 33     | UGC 10602  | 19             | UGC 12310  | 28             |           |                |
| PGC 131382 | 97             | UGC 1418 | 26, 27         | UGC 3536  | 36      | UGC 4438  | 13, 23     | UGC 5515  | 58             | UGC 6583  | 46         | UGC 8736  | 20, 21     | UGC 10639  | 31             | UGC 12342  | 40             |           |                |
| PGC 131440 | 99             | UGC 1422 | 38, 39         | UGC 3549  | 5, 6    | UGC 4448  | 5, 6       | UGC 5545  | 22, 23         | UGC 6593  | 34         | UGC 8740  | 57         | UGC 10644  | 10             | UGC 12348  | 52             |           |                |
| PGC 132071 | 86             | UGC 1427 | 50, 51, 62, 63 | UGC 3554  | 24      | UGC 4457  | 47         | UGC 5576  | 12             | UGC 6617  | 46         | UGC 8754  | 20, 32, 33 | UGC 10677  | 19, 31         | UGC 12363  | 52             |           |                |
| PGC 132293 | 85             | UGC 1432 | 50, 51         | UGC 3561  | 24      | UGC 4468  | 23         | UGC 5588  | 34             | UGC 6631  | 34         | UGC 8788  | 32, 33     | UGC 10693  | 19             | UGC 12372  | 28             |           |                |
| PGC 132357 | 77             | UGC 1451 | 38, 39         | UGC 3567  | 24      | UGC 4480A | 59         | UGC 5600  | 4, 5           | UGC 6637  | 46         | UGC 8817  | 32, 33     | UGC 10695  | 19             | UGC 12376  | 40             |           |                |
| PGC 132388 | 77, 8          |          |                |           |         |           |            |           |                |           |            |           |            |            |                |            |                |           |                |



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|---------|----------------|---------|----------------|---------|----------------|------------|----------------|---------|------------|----------|---------------------|--------------------------|---------------|
| Arp 61  | 61             | Arp 163 | 33             | Arp 265 | 21, 33         | HCG 29     | 85             | Shk 22  | 10         | AGC 3560 | 81                  | KUG 1226+285             | 33            |
| Arp 62  | 21, 22         | Arp 164 | 63             | Arp 266 | 33             | HCG 30     | 61             | Shk 26  | 22         | AGC 3564 | 81, 93              | KUV 18217+6419           | 9, 10         |
| Arp 63  | 35             | Arp 165 | 48             | Arp 267 | 34             | HCG 31     | 61             | Shk 27  | 52         | AGC 3565 | 81                  | MCG +0-1-36              | 63            |
| Arp 64  | 44             | Arp 166 | 38, 39         | Arp 268 | 5, 6           | HCG 32     | 73             | Shk 32  | 63         | AGC 3571 | 80, 81              | MG 0509+0541             | 61            |
| Arp 65  | 39, 51         | Arp 167 | 47             | Arp 269 | 21             | HCG 33     | 49             | Shk 34  | 51, 63     | AGC 3574 | 80, 81, D25         | MR 2251-178              | 64            |
| Arp 66  | 10, 19, 20     | Arp 168 | 27             | Arp 270 | 34             | HCG 34     | 49, 61         | Shk 35  | 63         | AGC 3581 | 80, 81              | Mrk 180                  | 4, 5          |
| Arp 67  | 63             | Arp 169 | 40             | Arp 271 | 56, 57, 68, 69 | HCG 35     | 23             | Shk 38  | 51, 63     | AGC 3627 | 102, 110            | Mrk 205                  | 4, 5          |
| Arp 68  | 52             | Arp 170 | 40             | Arp 272 | 43, 44         | HCG 36     | 47             | Shk 39  | 51         | AGC 3656 | 77, 78, 89, 90      | Mrk 304                  | 40            |
| Arp 69  | 32             | Arp 171 | 56             | Arp 273 | 26, 27         | HCG 37     | 35             | Shk 43  | 51, 63     | AGC 3698 | 77                  | Mrk 478                  | 32            |
| Arp 70  | 39             | Arp 172 | 43             | Arp 274 | 56             | HCG 38     | 47             | Shk 44  | 63         | AGC 3744 | 77                  | Mrk 501                  | 19            |
| Arp 71  | 43, 44         | Arp 173 | 44, 56         | Arp 275 | 71             | HCG 39     | 59             | Shk 49  | 22, 23, 34 | AGC 3747 | 89                  | Mrk 509                  | 65            |
| Arp 72  | 44             | Arp 174 | 34, 35         | Arp 276 | 50             | HCG 40     | 59             | Shk 50  | 22, 23     | AGC 4038 | 76, 87              | Mrk 586                  | 62            |
| Arp 73  | 19             | Arp 175 | 45, D2         | Arp 277 | 57             | HCG 41     | 22, 23         | Shk 51  | 22, 34     | AGC 4049 | 76, 87              | Mrk 668                  | 32, 33        |
| Arp 74  | 26, 27         | Arp 176 | 69             | Arp 278 | 28             | HCG 42     | 70, 71, 83     | Shk 54  | 22         | AGC 4059 | 76, 87, 88, 99      | Mrk 813                  | 44            |
| Arp 75  | 63             | Arp 177 | 32             | Arp 279 | 62             | HCG 43     | 58             | Shk 60  | 22         | AGC 5    | 76, 87              | Mrk 876                  | 3, 4, 10      |
| Arp 76  | 45, D2         | Arp 178 | 32             | Arp 280 | 21, 22         | HCG 44     | 34, 46         | Shk 63  | 22         | AGC 5116 | 99, 107             | Mrk 1014                 | 62, 63        |
| Arp 77  | 86             | Arp 179 | 62             | Arp 281 | 33             | HCG 45     | 12             | Shk 66  | 21, 22, 34 | AGC 5141 | 87                  | Mrk 1383                 | 56            |
| Arp 78  | 50, 51         | Arp 180 | 61             | Arp 282 | 39, 51         | HCG 46     | 46             | Shk 67  | 21, 22     | AGC 5274 | 106, 107            | MS 03180-1937            | 74            |
| Arp 79  | 44             | Arp 181 | 4, 5           | Arp 283 | 23             | HCG 47     | 46             | Shk 78  | 20         | AGC 5301 | 86                  | MS 07007+6338            | 13            |
| Arp 80  | 5, 6           | Arp 182 | 40, 52         | Arp 284 | 52             | HCG 48     | 82             | Shk 82  | 52         | AGC 5373 | 85, 86, 97, 98, D10 | MS 07546+3928            | 23, 24        |
| Arp 81  | 3, 9           | Arp 183 | 33             | Arp 285 | 22, 23         | HCG 49     | 5, 12          | Shk 83  | 52         | AGC 5463 | 97, 98, 106         | NPM1G-09.0688            | 64            |
| Arp 82  | 35             | Arp 184 | 6              | Arp 286 | 56             | HCG 50     | 12             | Shk 84  | 40, 52     | AGC 5465 | 85                  | NPM1G+27.0587            | 30            |
| Arp 83  | 46             | Arp 185 | 3, 4           | Arp 287 | 35             | HCG 51     | 34, 46         | Shk 90  | 13         | AGC 5521 | 85, 97              | NPM1G+40.0388            | 20            |
| Arp 84  | 20, 21, 32, 33 | Arp 186 | 61, 73         | Arp 288 | 45             | HCG 52     | 34, 46         | Shk 95  | 13, 23, 24 | AGC 5524 | 105, 106            | NPM1G+42.0131            | 24            |
| Arp 85  | 20, 21         | Arp 187 | 73             | Arp 289 | 69, 70, 81, 82 | HCG 53     | 34, 46         | Shk 98  | 12, 13, 23 | AGC 5535 | 85, 97              | OF+038(PKS 0422+004)     | 61            |
| Arp 86  | 28, 39         | Arp 188 | 10             | Arp 290 | 50, 51         | HCG 54     | 46             | Shk 105 | 12, 13     | AGC 5536 | 85                  | OF-109(PKS 0405-123)     | 73            |
| Arp 87  | 34, 46         | Arp 189 | 45             | Arp 291 | 46             | HCG 55     | 4, 5           | Shk 111 | 34         | AGC 5540 | 96, 97              | OJ 131(PKS 0818-128)     | 71            |
| Arp 88  | 51             | Arp 190 | 50             | Arp 292 | 59, 71         | HCG 56     | 12, 22         | Shk 113 | 12         | AGC 5591 | 84                  | OJ 287                   | 47            |
| Arp 89  | 47             | Arp 191 | 46             | Arp 293 | 10             | HCG 57     | 34, 46         | Shk 120 | 34         | AGC 617  | 71, 83              | PC 0013+0213             | 63            |
| Arp 90  | 20             | Arp 192 | 46             | Arp 294 | 34             | HCG 58     | 46             | Shk 123 | 11, 12     | AGC 636  | 82, 94, D21         | PDS 456                  | 67            |
| Arp 91  | 44             | Arp 193 | 33             | Arp 295 | 52             | HCG 59     | 46             | Shk 124 | 11, 12     | AGC 639  | 94                  | PG 0026+129              | 51            |
| Arp 92  | 52             | Arp 194 | 21, 22, 33, 34 | Arp 296 | 11, 12         | HCG 60     | 11, 12, 21, 22 | Shk 131 | 10, 11     | AGC 707  | 93                  | PG 0052+251              | 39            |
| Arp 93  | 76             | Arp 195 | 35             | Arp 297 | 20, 32         | HCG 61     | 33, 34         | Shk 135 | 3, 4, 10   | AGC 714  | 81                  | PG 0804+761              | 5, 6          |
| Arp 94  | 46             | Arp 196 | 33             | Arp 298 | 40, 52         | HCG 62     | 69             | Shk 138 | 9, 10      | AGC 740  | 81, 92, 93          | PG 0953+415              | 22, 23        |
| Arp 95  | 32             | Arp 197 | 46             | Arp 299 | 11, 12         | HCG 63     | 81             | Shk 154 | 58         | AGC 753  | 80, 81, 93, D17     | PG 1114+445              | 22            |
| Arp 96  | 1              | Arp 198 | 46             | Arp 300 | 5, 12          | HCG 64     | 57             | Shk 202 | 33         | AGC 754  | 92, 93              | PG 1116+215              | 34, 46        |
| Arp 97  | 33, 34         | Arp 199 | 20, 21, 32, 33 | Arp 301 | 34, 46         | HCG 65     | 81             | Shk 317 | 62, 74     | AGC 761  | 80                  | PG 1211+143              | D2            |
| Arp 98  | 39             | Arp 200 | 50             | Arp 302 | 32             | HCG 66     | 11             | Shk 322 | 58         | AGC 775  | 80, 92              | PG 1247+268              | 33            |
| Arp 99  | 40             | Arp 201 | 63             | Arp 303 | 59             | HCG 67     | 57, 69         |         |            | AGC 778  | 80, 92              | PG 1259+533              | 11            |
| Arp 100 | 75             | Arp 202 | 35             | Arp 304 | 62, 74         | HCG 68     | 20, 21         |         |            | AGC 801  | 90, 91, 101         | PG 1302-102              | 69            |
| Arp 101 | 43, 44         | Arp 203 | 34             | Arp 305 | 33, 34         | HCG 69     | 32, 33         |         |            | AGC 805  | 101, 102            | PG 1351+640              | 11            |
| Arp 102 | 19             | Arp 204 | 1              | Arp 306 | 63             | HCG 70     | 32, 33         |         |            | AGC 836  | 77, 78              | PG 1402+261              | 32, 33        |
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| Arp 104 | 11             | Arp 206 | 22, 34         | Arp 308 | 63, D16        | HCG 72     | 44             |         |            | AGC 851  | 89, 90              | PG 1448+273              | 32            |
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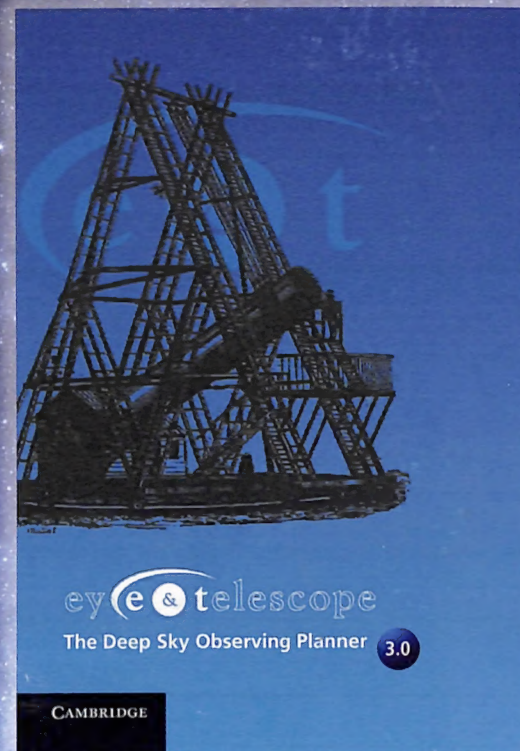
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